

Grande Ronde River Riparian Restoration

Environmental Assessment OR-035-03-02

Vale District Bureau of Land Management
Baker Field Office

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1.0 Purpose of and Need for Action

The Baker Field Office, Vale District Bureau of Land Management (BLM), proposes to engage in riparian restoration along the Wallowa and Grande Ronde Rivers in northeastern Oregon and southeastern Washington. Specifically, this restoration will be along the Wallowa River from Minam downstream to Rondowa in Wallowa County, Oregon. Restoration along the Grande Ronde River would be from Rondowa downstream to the confluence with the Snake River, which includes land in Wallowa County and Asotin County, Washington.

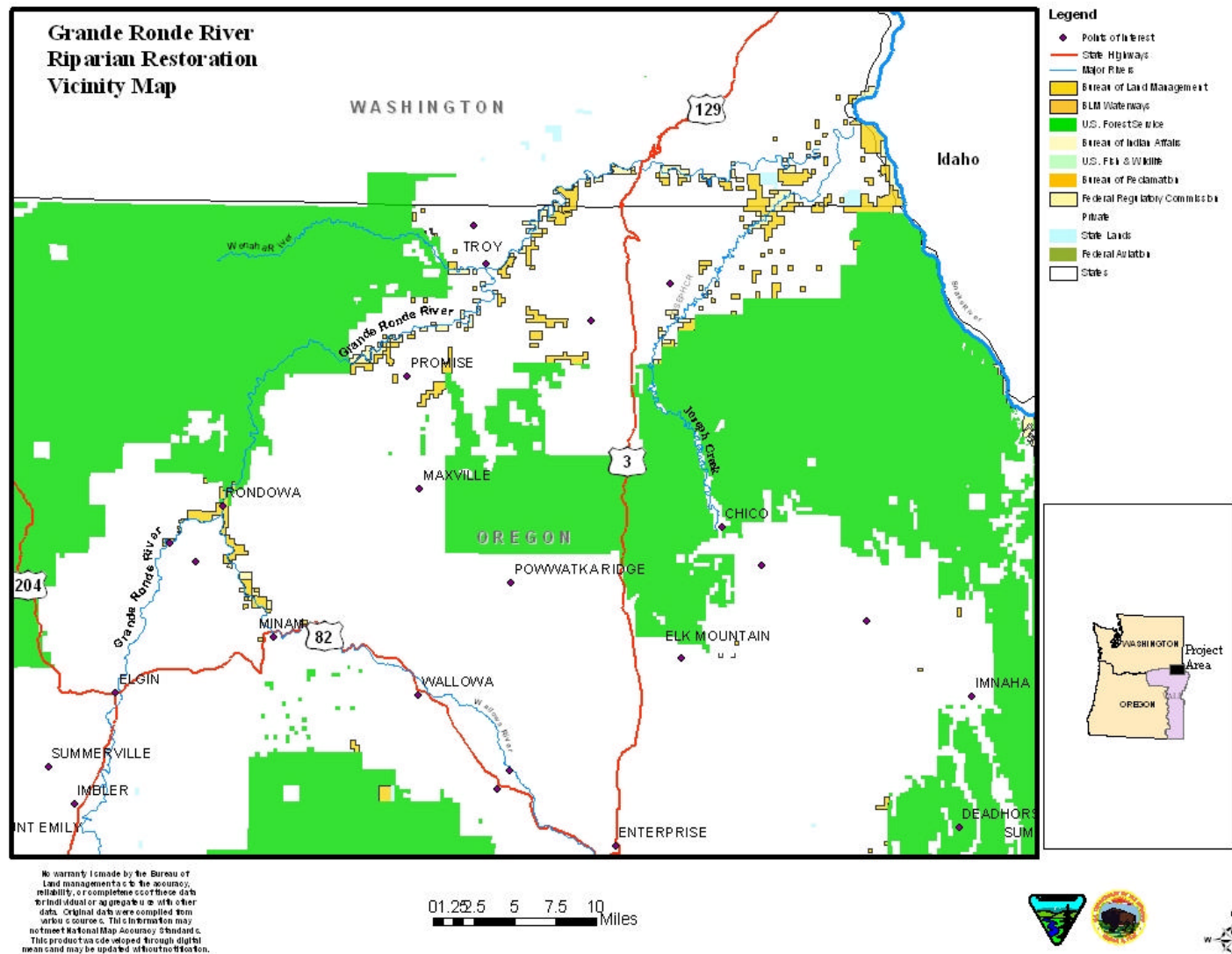
1.1 Background and Restoration opportunities

The BLM manages approximately 10 shoreline miles adjacent to the Wallowa River and 39 shoreline miles adjacent to the Grande Ronde River within the project area. Over the past 10 years, the BLM has acquired over 7400 acres of land which includes over 17 shoreline miles within the project area. Much of this acreage is old homestead areas with historic grazing and/or agricultural use. The goal of the BLM is to restore these areas, as well as other areas in the vicinity that the BLM manages, with native tree, shrub, and grass species. This can be accomplished by control of noxious weeds, planting and seeding of native species, and improvement of livestock management to meet resource management objectives in the riparian areas of the rivers and their tributaries. Restoration of the riparian areas will reduce the amount of bare streambanks which are currently contributing sediment to the rivers, provide a source of future large woody debris, and increase shade along the rivers and tributaries.

1.2 Conformance with Existing Land Use Plans

The proposed action is subject to the terms and conditions of the Baker Resource Management Plan Record of Decision (RMP, 1989) and The Wallowa and Grande Ronde Rivers Final Management Plan/Environmental Assessment (FMP/EA, 1993). The RMP and FMP/EA have been reviewed to determine if the proposed action conforms to the land use plan terms and conditions as required by 43 CFR 1610.5. The project area is located within the Blue Mountain Geographic Unit, as outlined in the RMP. The RMP provides general guidance for riparian area protection, soil productivity and other resources, and the FMP/EA also provides guidance for riparian area protection and restoration. This proposal has been found to be consistent with all applicable terms, condition, standards, and guidelines specified in the Baker RMP and the FMP/EA.

1.3 Map of Project Area



This project would take place on BLM managed lands along the Wallowa and Grande Ronde Rivers in northeastern Oregon and southeastern Washington. Detailed maps of the project area are located in Appendix II.

1.4 Desired Future Condition

Desired future condition of the BLM managed lands adjacent to the Wallowa and Grande Ronde Rivers include establishment of native tree, shrub, grass, and sedge species. Some of the techniques proposed to reach the desired future conditions include planting of native vegetation along currently bare and/or eroding streambanks, control of noxious weeds, seeding of disturbed areas, and improving livestock management in the riparian areas of the rivers and their tributaries adjacent to the rivers to meet resource management objectives. Plantings in high-use recreation sites will also help minimize disturbance to the riparian areas and help guide recreationists to desired camping and use sites. Restoration of the riparian areas will reduce the amount of bare streambanks which are currently contributing sediment to the rivers, provide a source of future large woody debris, and increase shade along the rivers and tributaries.

Not all BLM managed land in the project area is in need of restoration. Sites identified by the Interdisciplinary Team (IDT) as in need of some type of restoration currently are identified on Maps A-I, located in Appendix II. Additional restoration sites within the project area may be identified in the future and these sites may receive the same type of restoration treatment as described in this EA. Before restoration would occur on any additional sites, consultation with the regulatory agencies would transpire.

1.5 Permits, Licenses, and In-Stream Work Windows

A joint permit from the Oregon Division of State Lands (DSL) and U.S. Corps of Engineers (USCE) would be needed to replace the culverts on tributaries to the Wallowa River. In addition to the permit, in-stream work windows that are defined by the Oregon Department of Fish and Wildlife (ODFW) and Washington Department of Fish and Wildlife (WDFW) would be followed, except in areas identified for machine planting. Machine planting would occur during the lowest river flows and at a time when seedling survival would be the greatest (September through November). This would occur outside the normal in-stream work window and approval from ODFW and/or WDFW would be obtained before this treatment would occur.

1.6 Issues and Concerns Identified during Scoping

A scoping letter was mailed on December 20, 2002 to solicit comments from individuals and groups. Comments and issues raised during the scoping process included a concern that the BLM manages less than two percent of the Lower Grande Ronde Subbasin, and as such how can the proposed project contribute to measurable impacts on riparian resources. Other issues raised included how proposed projects could impact livestock grazing on private landowners. These issues were used during the final project development and/or incorporated into the project by means of adding mitigation measures, project design features, and/or modifying the project proposal where feasible.

1.7 Issues Considered, but eliminated from further analysis

Existing or historic roads were evaluated to provide machine planting access to some of the sites between Troy and Boggan's. Use of these roads would allow machine access without the tracked excavator having to cross the Grande Ronde River. On-the-ground investigation revealed that these roads would need considerable work to allow an excavator and fuel truck to travel to the planting sites. In addition, some of these roads are essentially closed and within the Wild and Scenic river corridor. The disturbance that would be required to these roads to provide access to the riparian flats was determined to be too great and could adversely affect the Wild and Scenic corridor. For these reasons, this method of accessing the planting sites was eliminated from further analysis.

2.0 Alternatives Including the Proposed Action

This section describes the No Action and the Proposed Action Alternatives considered for analysis that would meet the Purpose and Need described in Section 1.0.

2.1 Alternative A (No Action Alternative)

This alternative is the baseline for comparing effects of the proposed action on the existing environment. Under this alternative, the BLM would undertake only custodial work and other normal activities within the existing available budget. On-going activities such as recreation use and grazing would not be affected and would continue at existing levels. Natural processes would also continue at existing rates. Standards and Guidelines for rangeland health would continue to be implemented and noxious weed treatments outlined in the Vale District Integrated Noxious Weed Program EA (EA # OR-030-99-012) would continue.

No planting or seeding of native species would occur. Streambanks which are currently contributing sediment to the rivers would continue at the existing rate until natural regeneration of species occurred on these sites. Establishment of conifers through natural regeneration would not occur for extended periods of time (10 or more years) due to current site conditions. Natural restoration of the streambanks and riparian flats adjacent to the rivers would occur at a much slower rate and over a much longer time period than the active restoration of the proposed alternative.

2.2 Alternative B (Proposed Action)

This alternative is designed to improve the riparian habitat and reduce sedimentation within the project area. A variety of techniques will be employed to reach the desired future condition, including: Planting of native shrubs, hardwoods, conifers, and sedge plants; Native grass seeding; Prescribed fire; Construction of exclosures to restrict livestock grazing; and Replacement of culverts. In conjunction with the proposed treatments, noxious weed treatments would continue as outlined in the Vale District Integrated Noxious Weed Program EA.

Plantings – This treatment method involves using a hydraulic planting head mounted to a tracked excavator and/or hand planting crews. On BLM managed land adjacent to the Grande Ronde River between Troy and Boggan's, use of the excavator would involve crossing the river to access land across the river from the road. Downstream of Boggan's plantings would be done with hand crews, possibly using chainsaw augers, floating by boat or raft to reach the planting areas. Upstream of Troy, plantings could be done with the excavator where access allows otherwise planting would be done using hand crews.

Species to be planted include, but are not limited to; ponderosa pine, cottonwood, alder, a variety of native willows, mockorange, serviceberry, hawthorn, ninebark, snowberry, elderberry, and ceanothus. Any or all of the above mentioned species could be grown at the nursery to be planted with the excavator. In addition, a variety of native sedge species may be planted using hand crews.

Protection measures utilizing a combination of wire mesh cages, big game repellent, and/or paper mulches will be used on the conifers and some hardwoods to protect the seedlings until they are above the browse line and reduce competition from other vegetation. Plantings will be limited to areas where livestock grazing is restricted.

Currently, sites identified by the Interdisciplinary Team (IDT) as in need of some type of planting are identified on Maps B-G, located in Appendix II.

Native Grass Seeding – In conjunction with noxious weed treatments already on-going in the project area, native grass seeding is proposed to help establish native species and reduce the spread of noxious weeds. Seed may be applied using aerial methods, drilling, and/or hand spreading. Seeding will occur on areas previously treated for noxious weeds, areas that do not meet the desired condition for native species composition, and in areas where future weed treatments may take place.

As mentioned previously, noxious weed treatments are currently covered under a programmatic EA for the Vale District. As such, impacts from noxious weed treatments will not be analyzed in this EA, as they have already been analyzed previously. These noxious weed treatments are mentioned here because they are an integral part to the timing and success of other restoration activities that would take place under this project.

Exclosures – Construction of exclosures is proposed to restrict livestock grazing adjacent to the Grande Ronde River and its tributaries to protect riparian habitat. Currently, a number of exclosures have been built previously in a variety of locations to protect riparian resources. These exclosures will continue to be maintained. Additional exclosures proposed to be built are shown on Maps F, G, and H, located in Appendix II.

Road Related Projects – On the BLM managed portion of the road between Howard Creek and Rondowa, adjacent to the Wallowa River, the BLM proposes to replace two culverts. One of these culverts is located in an intermittent stream which is tributary to the Wallowa River. This culvert is currently undersized and partially plugged. The second culvert is a cross-drain culvert which is completely plugged. A detailed map of

the two culvert locations is shown on Map A, located in Appendix II. In addition to the culverts, one cattleguard is proposed to be installed on the boundary of BLM managed land on the Snake River road downstream of the confluence of the Grande Ronde and Snake Rivers. This cattleguard would prevent unauthorized cattle grazing along approximately two miles of the Snake River as shown on Map I, located in Appendix II.

Prescribed Fire – Prescribed fire may be utilized in a few small areas (less than 5 acres) to investigate whether or not lack of fire on some of the riparian flats is one of the factors that are contributing to little or no conifer regeneration in the project area. Prescribed fires would occur in the spring or fall when a low intensity burn can be achieved. Burns would be limited to the areas where road access is available for equipment needed to control the prescribed fire.

Proposed Timing

The timing of action items is dependent on adequate restoration funding. Noxious weed treatments are not identified here, however weed treatments need to be undertaken at some sites before other activities such as planting would take place. Noxious weed treatments, as mentioned previously, are addressed under the Vale District programmatic EA.

As funding becomes available, treatments would be undertaken in the following order:

Year 1 (FY 2003 +):

1. Road Related Projects (culverts and cattleguard, Map A and I)
2. Two exclosures (map G and H)
3. Seeding – dependent upon noxious weed treatments

Year 2 (FY 2004+):

1. Seeding – dependent upon noxious weed treatments
2. Hand planting of conifers, hardwoods, and shrubs (Map F and G), includes protection measures.
3. Prescribed burning (Map C and/or D)
4. Exclosures (Map C, F, and/or G)

Year 3 (FY 2005+):

1. Seeding – dependent upon noxious weed treatments
2. Machine planting of conifers, hardwoods, and shrubs (Map B, C, D, and E), includes protection measures.
3. Prescribed burning (Map C and/or D)

Year 4 (FY 2006+):

1. Seeding – dependent upon noxious weed treatments
2. Replanting where/if needed – Continue protection measures

Year 5 (FY 2007+):

1. Replanting where/if needed – Continue protection measures

Weeds treatments would continue as needed – addressed in District programmatic EA.

2.3 Project Design Features of the Proposed Action

Project design features are actions taken as part of a proposal to mitigate or avoid negative effects of a proposed action. The following project design features would be implemented as part of Alternative B, the proposed action.

Cultural Resources

Areas proposed for ground disturbance activities (planting, fence construction, drill seeding, etc.) would be surveyed for cultural resources before project implementation. Any cultural sites found during the surveys would be avoided during restoration treatments.

Hand Planting

1. Hand planting using chainsaw augers and/or hand tools will occur on sites above the cobble shoreline, mostly on the riparian flats, above the normal floodplain.
2. Chainsaw augers and gasoline (gallon containers) will be transported across the river in rafts in water proof boxes.
3. All conifers will be protected with wire mesh cages and hardwoods will be excluded from livestock grazing.

Machine Planting and Culvert Replacements

A joint permit from the Oregon Division of State Lands (DSL) and U.S. Corps of Engineers (USCE) would be needed to replace the culverts on tributaries to the Wallowa River. In addition to the permit, in-stream work windows that are defined by the Oregon Department of Fish and Wildlife (ODFW) would be followed during the culvert replacements.

Several areas between Troy and Boggan's (identified on Maps C, D, and E in Appendix II) have been identified for planting by machine. Many of these areas are across the river and will require the machine to ford the river for access. The ideal time for planting (for the highest survival and when river flows are low for machine crossing) is during the fall (September through November) which would be outside the normal in-stream work window. Approval by ODFW and/or WDFW would be obtained before this treatment would occur.

1. Machine planting areas – The excavator used for machine planting would only be able to cross the Grande Ronde River at sites designated by the BLM hydrologist and/or fisheries biologist. These crossing sites would be determined ahead of

- time and coordination with state and federal agencies would take place to ensure that spawning redds, in-stream habitat, and riparian vegetation are not impacted.
2. Use of machinery in riparian areas – The use of machinery in riparian areas is allowed, however all fueling and maintenance activities would take place outside of the riparian areas. Adequate spill measures including absorbent blankets, containment booms, etc. would be required. In addition, biodegradable hydraulic fluid would be required to be used in the machinery to mitigate damages should a hydraulic line break during the project. Machinery would be limited to areas where riparian vegetation is currently not established or where native species are below desired condition to prevent damage of existing vegetation.
 3. Timing – The timing of activities other than the use of the excavator to cross the Grande Ronde River would follow ODFW and/or WDFW in-stream work windows. Coordination with ODFW and/or WDFW and other regulatory agencies would occur to minimize impacts of the river crossing by the excavator. Crossing the river can not occur at the current designated in-stream work windows because of river flow and high risk of seedling mortality. In order to ensure that the excavator can cross the river at low flows and that seedlings would survive, planting in late September to early November would be required. Planting would occur between Troy and Boggan's (the area where the excavator needs to cross the river) all in one year to minimize disturbance to in-stream and riparian habitat.
 4. River crossing sites – River crossing sites would be identified by the BLM fisheries biologist and monitored prior to crossing to ensure that no spawning redds are impacted. Potential crossing sites will be evaluated ahead of time and then again just prior to crossing to ensure no redds are present. In addition to avoiding redds, crossing sites will be located to minimize disturbance to any existing riparian vegetation. River crossings with the excavator will be minimized by not allowing the excavator to travel back and forth across the Grande Ronde River to haul plants, materials, and other equipment to the planting sites. Planting personnel, plants, and materials will be transported via boat, raft, and/or helicopter to the planting sites. This will minimize the number of trips across the river that the excavator will have to make, usually one trip across and back for each planting site. There are, however, a few sites which may require more than one day of planting. At these sites, the excavator may have to travel back across the river to the road to fuel and then return to the planting site across the same crossing the next day. Fuel will not be transported across the river for the excavator, and any fueling would need to take place on or near the road as far away from the river as feasible.
 5. Protection - All conifers will be protected with wire mesh cages and hardwoods will be excluded from livestock grazing.

Seeding

1. Seeding by drilling will only occur where hand or aerial seeding would be ineffective due to soil conditions.

2. Fueling for the machine to pull the drill would occur adjacent to the road or in turnouts as far away from the rivers as feasible.
3. Travel by the machine will be limited to planting sites and use of existing roads to the sites. If the machine needs to access a site by crossing the Grande Ronde River, all of the project design features listed in *Machine Planting* above would be adhered to.

Exclosures

1. Exclosures will be constructed to exclude cattle from riparian areas adjacent to the river and other tributary streams.
2. All fencing supplies will be hauled by helicopter, raft or ATV on existing roads. Supplies will be transported to the sites to protect perennial vegetation.
3. Bare soil produced from travel and construction will be seeded with native perennial grasses at completion.
4. All existing and new fencing exclosures will be maintained on a yearly basis or as funding is available.

Prescribed Fire

1. Prescribed fire would be done on very small areas (less than five acres) during early spring or late fall to accomplish a low intensity burn. The prescribed fire would be used to remove the duff layer in pine stands to help stimulate regeneration of young seedlings.
2. Fires will not be set in areas where bare soil will produce sediment to the river. Most of the areas identified for prescribed fire are on elevated flats, above the river corridor and out of the immediate floodplain, and would have a buffer of unburned vegetation between the prescribed fire area and the stream.
3. All fuel sources and equipment with fuel will be kept on the side of the road or on a turnout as far away from the river as feasible.

3.0 Affected Environment

3.1 Fisheries

Federally listed fish species occurring within the Lower Grande Ronde and Wallowa Subbasins consist of Snake River spring/summer and fall chinook salmon, summer steelhead, and bull trout.

National Marine Fisheries Service (NMFS) listed Snake River spring/summer chinook salmon (*Oncorhynchus tshawytscha*) and the Snake River fall chinook salmon (*O. tshawytscha*) as threatened species under the ESA on May 22, 1992. These species were addressed in 1994 under the *Middle Grande Ronde River, Wenaha River, and Wenatchee Creek, Section 7 Watershed Assessments of Ongoing and Proposed Activities*, and the 1993 BLM *Biological Evaluation ESA Section 7 Consultation Lower Grande Ronde River*.

In 1997, NMFS published a final rule listing the summer steelhead (*Oncorhynchus mykiss*) in the Snake River Distinct Population Segment (DPS) as a threatened species under the ESA. This ruling became final on October 17, 1997. Critical Habitat was proposed for summer steelhead on February 5, 1999 and finalized on February 16, 2000. Summer steelhead Critical Habitat encompasses the current freshwater and estuarine range of the DPS. This species was addressed under the *Middle Grande Ronde River, Joseph Creek, and Wenaha River Section 7 Watershed Assessments of Ongoing and Proposed Activities* completed by the Forest Service in 1998, and the *Biological Assessment for Activities Associated with Bureau of Land Management Lands within the Lower Grande Ronde Watershed*, completed by the BLM in 1998.

The US Fish and Wildlife Service (USFWS) published a final rule listing the bull trout in the Columbia River Distinct Population Segment as a threatened species under the Endangered Species Act (Federal Register Volume 63, Page 31647). The rule became final on July 10, 1998. This species was addressed under the *Middle Grande Ronde River, Wenaha River Section 7 Watershed Assessments of Ongoing and Proposed Activities* completed in 1998 by the Umatilla NF, and the *Biological Assessment for Activities Associated with Bureau of Land Management Lands within the Lower Grande Ronde Watershed*, completed by the BLM in 1998. Critical Habitat has been proposed for bull trout in the Grande Ronde Subbasin. The final designation will occur in the fall of 2003. The Wallowa and Grande Ronde Rivers are proposed as critical habitat.

Spring/Summer Chinook B Historically, spring/summer chinook salmon were distributed throughout much of the Lower Grande Ronde and Wallowa River Subbasins. Rearing habitat for spring/summer chinook salmon may have occurred in other tributaries and further upstream from current habitat. The current low numbers of fish returning to spawn is attributed to harvest in the Columbia River, passage mortality at Columbia and Snake River dams (since 1975, Grande Ronde and Wallowa River spring chinook salmon must pass a total of four Snake River and four Columbia River dams during their migrations), and habitat degradation within the Grande Ronde and Wallowa River Subbasins.

Designated critical habitat for spring/summer Chinook salmon within the Lower Grande Ronde River Subbasin includes approximately 130 miles of rearing and migration habitat. Of these 130 miles, approximately 32.9 miles also serve as spring/summer chinook spawning habitat. The major spring/summer chinook salmon producing stream in the subbasin is the Wenaha River.

The 32.9 miles of spring/summer chinook salmon spawning includes the Wenaha River, from the mouth of Crooked Creek (RM 6.6) to the Forks (RM 21.5); the lower three miles of the North Fork Wenaha River; the lower six miles of the South Fork Wenaha River; the lower six miles of Butte Creek; and the lower three miles of Joseph Creek. These spawning areas are based on Region 6 Stream Surveys, and on Oregon Department of Fish and Wildlife (ODFW) redd counts. ODFW has conducted spawning ground

counts for spring/summer chinook salmon yearly since 1963 in the Wenaha River Watershed.

The 130 miles of spring/summer chinook rearing and migration habitat includes 82 miles of the Grande Ronde River. During summer months, rearing occurs from Rondowa (RM 82) downstream to the mouth of Alder Creek (RM 71) (Mullarkey 1970). As water temperatures in the river decrease in the fall, more of the river can support chinook salmon rearing. During the winter months the entire length of the Grande Ronde River may be capable of supporting juvenile chinook (Thompson and Haas 1960). The Wenaha River system contributes approximately 44.5 miles to the 130 miles of spring/summer chinook rearing habitat. This system includes the main stem Wenaha River from its mouth to the forks (RM 21.5); the lower five miles of the North Fork; the lower seven miles of the South Fork; the lower seven miles of Butte Creek; and the lower one mile of Rock, Slick Ear, Beaver, and Milk Creeks. Finally, the lower-most 1.5 miles of Menatchee Creek and 2.0 miles of Wildcat Creek also contain rearing habitat.

Currently, there are 28 miles of spawning habitat in the Wallowa River Subbasin. Spring/summer chinook spawn in the Wallowa River from Wade Gulch upstream 12 miles, in Bear Creek from the confluence with Little Bear Creek to Dobbin Creek, in Hurricane Creek from the confluence with the Wallowa River upstream approximately 4.1 miles, and in Prairie Creek and its tributaries (Pratt and H. Fork) from the confluence with the Wallowa River upstream approximately 4.2 miles (USDA Forest Service 1994) ODFW has been conducting spawning counts on these streams for over thirty years.

There are approximately 79 miles of rearing habitat within the Wallowa River Subbasin. Rearing habitat for spring/summer chinook occurs in the following stream reaches: in the Wallowa River from Rondowa upstream to within three miles of the Wallowa Lake Dam, in Bear Creek from its mouth upstream to Dobbin Creek, in Hurricane Creek from its mouth upstream approximately 4.1 miles and in Prairie Creek and its tributaries (Pratt and H.Fork) from its mouth upstream 4.2 miles (USDA Forest Service 1994).

Limiting factors for chinook salmon within the Wallowa River Watershed include: high stream temperatures in late summer and early fall (during spawning migration), low flows due to water diversions, limited spawning gravels for over-wintering eggs, and barriers to upstream migration.

Reduction in quantity and quality of rearing habitat have reduced the capacity of some streams in the Grande Ronde River subbasin to support juvenile spring chinook salmon. ODFW has estimated reductions in juvenile production capacity of 70% in the Wallowa River and Hurricane Creek (Draft Grande Ronde Subbasin Summary, 2001).

Fall Chinook - Fall chinook currently rear and spawn in the Lower Grande Ronde River up to Wildcat Creek (RM 53). Identification of the spawning area is based on aerial surveys conducted annually by USFWS.

Fall chinook salmon may have been indigenous to the larger streams of the Lower Grande Ronde Subbasin. Limited information is available on areas historically used by fall chinook. There are 86.2 miles of designated critical habitat in the subbasin. This includes the only known spawning habitat in the subbasin, the Grande Ronde River below Rondowa (RM 82), and the lower 4.2 miles of Joseph Creek, where fall Chinook are believed to have historically spawned and reared.

Steelhead - Approximately 560 miles of designated summer steelhead critical habitat exist in the Lower Grande Ronde Subbasin. Steelhead spawn and rear in the Grande Ronde and Wallowa Rivers and all of its perennial tributaries. Spawning also occurs in some intermittent streams. Rearing habitat occurs in the same streams throughout the subbasin. However, rearing habitat diminishes in mid to late summer as upper tributary streams go dry.

Historical habitat for summer steelhead in the Lower Grande Ronde and Wallowa Subbasins may have included additional streams than presently identified but more likely, distributions extended further upstream in streams currently containing habitat. The extent of habitat may have been greater due to the more perennial nature of streams prior to intensive management such as logging, road building, and grazing. It could also be due to the competition for food and space that would have occurred when greater fish numbers were present. This competition may have forced steelhead further upstream to escape competition.

Steelhead spawn and rear in the Grande Ronde River below Rondowa and in the following tributary streams: Joseph Creek, Chesnimnus Creek and its forks, Davis Creek, Doe Creek, Elk Creek Little Elk Creek, Crow Creek, Cougar Creek, Sumac Creek, Swamp Creek, Broady Creek and its forks, Summit Creek, Vance Draw, Tamarack Gulch, TNT Gulch, Peavine Creeks (both Joseph and Chesnimnus tributaries), Lupine Creek, Rush Creek, Cottonwood Creek, Horse Creek, Basin Creek, McCarty Gulch, Billy Creek, Alder Creek, Hilton Gulch, Big Canyon, Poison Creek, Devils Run Creek, Gould Gulch, Bobcat Creek, Buck Creek, Burnt Creek, Clear Creek, McCallister Creek, McCubbin Creek, Mud Creek, Sled Creek, Tepee Creek, Tope Creek, Wildcat Creek, Courtney Creek, the Wenaha River, North and South Forks Wenaha River and their tributaries, Crooked Creek, Butte Creek, Buford Creek, Rattlesnake Creek, Bear Creek, and Wenatchee Creek. Steelhead also spawn in numerous unnamed streams throughout the subbasin. Oregon Department of Fish and Wildlife (ODFW), Nez Perce Tribe, and Forest Service records were used to determine the extent of habitat utilized by summer steelhead.

The Wallowa River Subbasin contains approximately 113 miles of existing steelhead habitat presently occupied; 26 miles of perennial streams bearing fish other than steelhead trout; 363 mile of non-fish-bearing streams; and 1.980 miles of intermittent streams. In addition to these streams, there are 106 miles of ephemeral canals (Wallowa River Section 7 Biological Assessment, USFS, 1998).

In the Wallowa Subbasin, principal spawning areas include the upper mainstream and tributaries of the Wallowa River, Minam River, Deer Creek, Bear Creek, and the Lostine River.

Bull Trout - In general, locations of spawning and rearing for bull trout in the Lower Grande Ronde Subbasin have been described by Buchanan et al. (1997). Within the Lower Grande Ronde Subbasin, bull trout spawning habitat is found only in the Wenaha River Watershed. Bull trout spawn in the following areas: Wenaha River between the mouth of Crooked Creek (RM 6.6) and the forks (RM 21.5); the North and South Forks up to their headwaters; Crooked Creek; First Creek; Third Creek; Butte Creek; and Milk Creek (Buchanan and Gregory, 1997). Migratory and rearing habitat occurs within the Wenaha River in the same streams. The Grande Ronde River itself is considered migratory habitat for bull trout moving to and from spawning and rearing habitat in the Wenaha River and the Upper Grande Ronde River Subbasin. Critical Habitat has been proposed for bull trout in the Grande Ronde Subbasin. The final designation will occur in the fall of 2003. The Wallowa and Grande Ronde Rivers are proposed as critical habitat.

In the Wallowa River Watershed there was an adfluvial population of bull trout which historically migrated up the entire drainage. They migrated upstream to Wallowa Lake, in Wallowa Lake and upstream into the East and West Fork of the Wallowa River. Unfortunately this population has been partially eliminated. All adult bull trout were intentionally trapped and removed from Wallowa Lake beginning in the early 1930's (Ratliff and Howell 1992). A dam and series of weirs were used to eliminate bull trout migration into Wallowa Lake in an effort to reduce predation on rainbow trout. Most wild bull trout were believed to be extirpated from Wallowa Lake in the late 1950's (ODFW 1997).

Most of the known remaining spawning and rearing and summer residents in the Wallowa Subbasin are located on USFS managed land. Populations of bull trout are currently found in the Minam River, Elk Creek, Little Minam River, Deer Creek, Bear Creek, Little Bear Creek, Lostine River and Hurricane Creek (ODFW 1997).

3.2 Hydrology and Soils

The Lower Grande Ronde River Subbasin, exclusive of the Wallowa River drainage, drains approximately 1530 mi² and contains 773 miles of streams. This watershed includes The Grande Ronde River and tributaries, excluding the Wallowa River, from the Wallowa River to the confluence with the Snake River. The Washington portion of the watershed contains 188 miles of perennial streams in the Wenaha drainage and 265 miles of streams in the Grande Ronde drainage (Draft GRSS, 2001). Elevations in the watershed range from about 1,000 ft. at the confluence of the Grande Ronde and Snake Rivers to over 5,800 ft. at the headwaters of the Wenaha River.

The Wallowa Subbasin drains about 950 mi², with a perimeter of 139 mi. and 494 mi. of streams. It includes the Wallowa River and its tributaries from the headwaters to the

mouth. Elevations in the watershed range from 2,288 ft. at the confluence of the Wallowa and Grande Ronde Rivers to over 8,000 ft. at the headwaters in the Lakes Basin of the Eagle Cap Wilderness Area.

The varying topography of the Wallowa and Lower Grande Ronde River Subbasins contributes to varying timing of spring runoff and peak discharge. Annual peak flows in the Lower Grande Ronde River generally occur in April or May, if not sooner. Streams in the higher elevations of the project area may not experience annual peak flows until May or June.

Figure 1 below shows the mean monthly streamflow for the USGS gaging site on the Grande Ronde River at Troy, Oregon. Data represented is the mean of monthly streamflows for the period of record from 1945 through 2001.

Figure 1 – Hydrograph of Mean Monthly Streamflow for the Grande Ronde River at Troy, Oregon

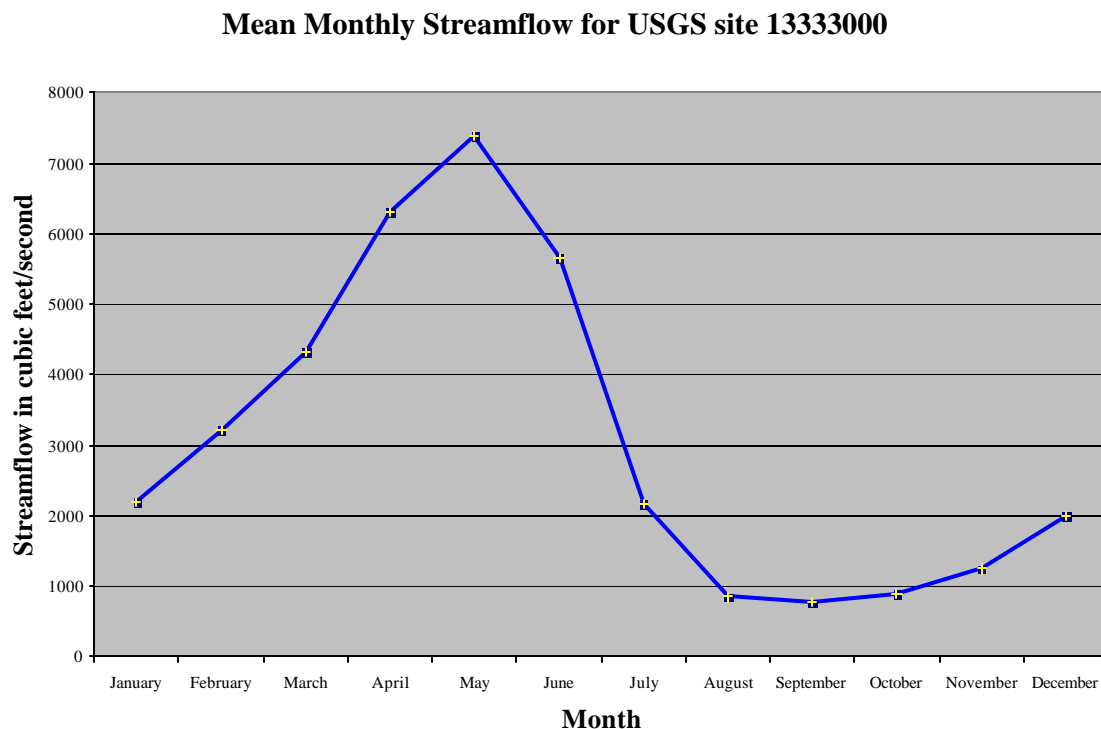
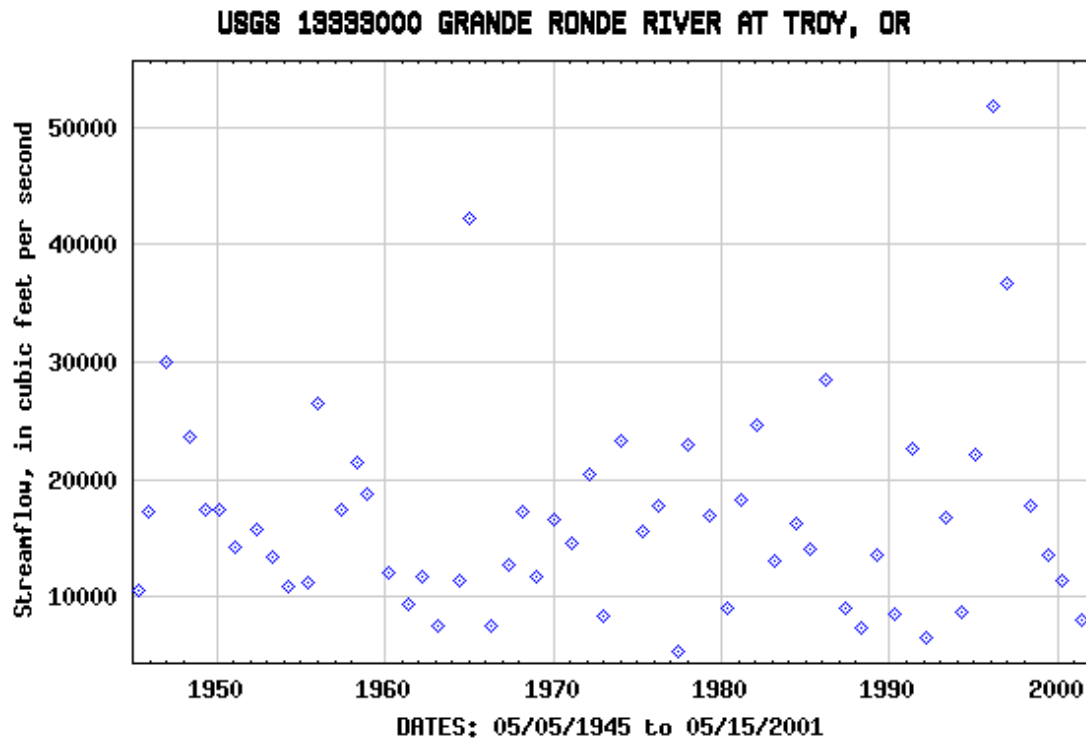


Figure 2 below shows the annual peak streamflow recorded at the gaging station on the Grande Ronde River at Troy, Oregon between 1945 and 2001. The annual maximum discharge measured varied from 5,420 cubic feet per second (cfs) in 1977 to 51,800 cfs in 1996. The minimum flow measured at this gaging station was 321 cfs in 1993. The data for Figures 1 and 2 as well as the above information came from the USGS websites.

Figure 2 - Annual Peak Streamflow of Grande Ronde River at Troy for period of record (1945 to 2001)



The Wallowa and Grande Ronde River are both listed on Oregon's 303(d) list of water quality limited streams (ODEQ, 1998). The Grande Ronde is listed from the Oregon/Washington state line upstream to the confluence of the Wallowa River for: Habitat modification; Sedimentation; and Temperature. The Wallowa River is listed for: Bacteria; Flow Modification; Habitat Modification; pH; Sedimentation; and Temperature. Currently, the Grande Ronde River is not listed as water quality limited in Washington state. Both Oregon and Washington are currently updating their 303(d) lists for 2002 as required by the Environmental Protection Agency (EPA).

The BLM has collected continuous stream temperature data on the Wallowa River as well as numerous tributaries to the Wallowa and Grande Ronde Rivers within the project area to monitor summer stream temperatures. In addition, single measurements of water quality parameters such as pH, dissolved oxygen, and turbidity have also been collected at all temperature recording sites during visits to each site. This monitoring information is published annually in the Section 7 Monitoring Reports and is available at the Baker BLM Field Office.

During site visits for water quality data collection, and field review of the project, actively eroding streambanks were noted that were contributing sediment directly to the Grande Ronde River and some of its tributaries. Land management activities such as grazing, timber harvest, road building, agriculture, etc. may have contributed to the instability of the streambanks.

In addition, a lack of native riparian vegetation such as sedges, willows, cottonwoods, etc. was noted at some of the project locations. Noxious weeds are also abundant on sites where native vegetation has been lost or has declined.

Soils

Soils in the Grande Ronde River subbasin are highly variable and may range from those on thin, rocky, low-productivity ridgetop scablands to those in deep ash accumulations on very productive sites (Draft GRSS, 2001)

Soils that formed in alluvial and lacustrine deposits are found on the floodplain, terraces and fans of the Grande Ronde and tributary valleys. These soils form on gentle slopes and are well suited for cultivated crops and pasture.

Soils that formed in a combination of alluvium, eolian and lacustrine deposits mixed with residuum and colluvium from basalt and volcanic tuff are found in higher terraces and alluvial fans of the Grande Ronde subbasin. Slopes vary considerably, ranging from less than 5 percent up to 45 percent. These soils are also used for irrigated crops and pasture, as well as rangeland.

Soils derived exclusively from colluvium and residuum from basalt and volcanic tuff are found on the dry foothills above the valleys and below the timbered areas. Slopes vary from less than 5 percent to as much as 70 percent. Areas with steeper slopes tend to have a high erosion hazard. These soils are mainly used for rangeland and wildlife habitat.

Soils that formed in colluvium and residuum from basalt and volcanic tuff and recent volcanic ash are found in the forested uplands of the subbasin. Slopes vary from less than 5 percent to greater than 70 percent, and have variable erosion hazard. Predominant land uses in this soil type are timber production, wildlife habitat and woodland grazing.

3.3 Recreation

Use surveys conducted in 1984 to present show that the Grande Ronde river is visited by approximately 3000 recreationists of geographically diverse origins. Recreation use data for the Wallowa/Grande Ronde rivers is collected annually, however, it has only been in the last 2 years that a permitting process was put in place to more accurately collect data on the boating use of the rivers.

The primary use of the area is from local residents, however, a growing portion of those users are coming from distances greater than 2 hours travel time to the launch points. In

addition, international users have also been present in the sampling.

Use of the Wallowa/Grande Ronde draws recreationist from long distances because it has the following attributes:

- \$ The river is floatable from ice break-up in the spring until freeze-up in the winter, giving the Grande Ronde a 10 month floating season. This is an unusually long float season for a free flowing river.
- \$ The river provides a rare, 2-5 day duration, primitive float experience for individuals of beginning and moderate skill levels.
- \$ The recreational experience occurs within a pleasingly diverse landscape. Typical float trips begin in a setting dominated by coniferous forests and end in a semi-arid grassland steppe.
- \$ Existing recreational uses that are exceptional in quality include: anadromous and resident fishing, floating (rafting, canoeing, and kayaking for overnight use), and viewing/hunting (waterfowl, upland birds, large and small game animals).

Campsite inventories have been conducted every three years since 1989. Of the 224 campsites originally identified in 1989, 133 remain due to the encroachment of native vegetation and the implementation of “Leave No Trace” camping by the public. All campsites inventoried are primitive and also serve as rest stops and picnic sites. Regulations created by the various agencies, like mandatory firepans and toilet systems, has also aided in the protection of the river resources.

Recreational fishing on the Grande Ronde/Wallowa Rivers, like camping, is also closely associated with floating the rivers. Angler counts by the ODFW indicate that about 80 percent of angling occurs in June and July, which correlates to the greatest frequency of boaters. Trout fishing is primarily for rainbow of which there are both wild and stocked populations. Steelhead fishing is done mostly in the spring and fall, but is sometimes associated with float boating as well. More typically, steelhead are caught on the lower section of the Grande Ronde in Oregon and Washington.

In 1987 the BLM and USFS began administering a River Ranger Program on the Wallowa and Grande Ronde Rivers. The rangers monitor river use, maintain campsites, gather valuable river information for all BLM programs, provide access for projects and personnel, and provide visitor services/information and search and rescue response.

3.4 Visual Resource Management

The designated river corridor for the Wallowa and Grande Ronde Rivers contains a diversity of land forms and vegetation that captures the attention of the viewer. Vegetative color, enhanced by climatic change, adds a fresh and distinctive change to the landscape over each of the seasons.

The canyon slopes have many steep rock terraces, sheer basalt cliffs and overhanging

bluffs. The multiple layers of the Columbia River Basalt that are exposed in the canyon walls show a variety of shape and color that provide the viewer a continuous, awe-inspiring experience as the view changes from one meander to another. A wide variety of forests, trees, shrubs and grasslands are visible and contribute substantially to the scenic quality of the corridor. The progression from largely forested vistas to forested stringers separated by native bunch grass slopes gives depth and variety to the landscape.

The setting from which the viewer experiences the scenery is perhaps the greatest quality of the river. Scenic quality is enhanced considerably by water and its ever changing nature as it tumbles and swirls over rocks, around islands, cutting steep banks on one turn and depositing the sand and silt on a bar at the next turn. The diversity of a river experience is improved greatly by the frequent sightings of wildlife. River users have a primitive experience within a largely untouched scenic viewshed in the upper river reach, while the lower portion flows through open grass covered hills with forested pockets and tributary canyons that are accessed by roads that serve the historical ranch community of Troy and adjacent bench lands above the river canyons.

The scenic attractions of the lower Wallowa/Grande Ronde Rivers have been recognized for many years. The Nationwide Rivers Inventory, prepared in 1980 by the US Department of the Interior, identified the Grande Ronde and the Wallowa Rivers, below Minam, as important natural free-flowing rivers. The inventory described them as possessing “high scenic quality, excellent examples of gooseneck meanders, and having a high recreational boating and important fishery resources. “The Goosenecks National Natural Landmark” is an excellent example of lateral entrenched meanders on the Grande Ronde river in Washington. The landmark designation includes public and private land at two locations in the lower river corridor” at the Oregon/Washington border and near the Narrows at the mouth of Joseph Creek.

Through agency inventories and land use planning efforts, the river corridor has been classified to retain the existing character of the landscape. Level of change to the characteristic landscape through management actions will be subordinate to the overall landscape integrity. Management activities will not degrade scenic qualities. Any change must repeat the basic elements of form, line color, and texture found in the predominant natural features of the landscape.

Classifications of the river segments are as follows: Wallowa River – Class II, Grande Ronde River in Oregon State from Rondowa to Wildcat Creek – Class I, Grande Ronde River in Oregon State from Wildcat Creek to the Oregon/Washington state line – Class II, and Grande Ronde River in Washington State – Class II. These classifications are based upon the BLM’s visual resource management criteria, which include scenic quality, visual sensitivity and viewing distance, and have resulted in four Visual Resource Management (VRM) classifications. More information on VRM and maps of VRM classification are included in the Baker RMP and the Wallowa and Grande Ronde Rivers Final Management Plan/Environmental Assessment (FMP/EA, 1993; RMP, 1989).

3.5 Vegetation

This section is broken down into two sub-sections, one which gives an overall view of the plant communities in the project area and the other which describes the forest type vegetation and how it changes at different locations along the rivers within the project area.

3.5.1 Plant Communities

The plant communities along the Grande Ronde River and tributary corridors most closely resemble those described in Plant Associations of the Wallowa-Snake Province, (R6-ECOL_TP-255A-86, June 1987) a technical publication produced by the USDA Forest Service for the Wallowa-Whitman National Forest. Individual sites range in condition from severely disturbed early-seral vegetation dominated by non-native annual grasses and weeds to nearly pristine native plant communities.

At the upper reaches and elevations, Douglas-fir and grand fir forests may dominate the landscape. At lower elevations, ponderosa pine forest thins out to a mixture of shrubland and grassland. Below Boggan's Oasis, slopes above the river floodplain are usually dominated by bluebunch wheatgrass and Sandbergs bluegrass, with shrubs and trees retreating to moist draws, north aspects, and flooded benches.

In general, river shorelines and benches have been dramatically altered by historic grazing, homestead farming, and major river flood events. Impacts of historic grazing are visible in the reduction of palatable native vegetation on shorelines and gentle to moderate slopes, and the evident terracing and reduction in cover on steeper slopes. Abandoned homestead farms are marked by flatter ground that is sometimes completely devoid of native species of grasses, shrubs, and trees. Several species of non-native cheatgrass and weeds usually dominate the sites of the old fields. Historic flooding has literally taken away large stretches of shoreline and bench land where remnant vegetation was insufficient to hold the banks. During low water periods, those former floodplain benches appear as weedy cobble flats.

What is not obvious is the degree to which healthy plant communities and biodiversity are lacking. Remnant components of many species provide clues to the diverse ecological conditions which formerly allowed the river to build stable banks. Some of those species have recovered and increased since the 1996-97 floods, coyote willow and white alder being prime examples. Others are still relatively rare or limited in extent, such as sedges, rushes, and Great Basin wildrye. These are probably increasing very slowly due to the lack of seed sources and continued habitat disturbance from livestock and flooding. Some like bluebunch wheatgrass are present on the slopes, but have not reclaimed habitat on floodplain benches. Under present conditions, deer may be limiting the establishment of ponderosa pine on floodplain benches. Establishment of riparian hardwoods such as black cottonwood (*Populus trichocarpa*), Pacific willow (*Salix lucida* ssp. *caudata*), MacKenzie willow (*Salix prolixa*), and peach-leaf willow (*Salix amygdaloides*) are limited both by a combination of factors including lack of seed source,

lack of sediment deposition, and by livestock and deer browsing. Restoration of these and many other species to their former abundance is essential to stabilizing the remaining river floodplain habitat and re-building the lost floodplain.

Special Status Plant Species:

There are no known federally listed threatened or endangered plant species along the river corridor. MacFarlane's four-o'clock and Spalding's silene, both federally listed as *Threatened* occur in the region nearby, but not in the areas identified for restoration. A number of species of concern to BLM and the Washington and Oregon State Natural Heritage Programs are known or reported from the river corridor. A listing of those species and their current status categorization is included in Appendix I.

3.5.2 Forested Vegetation

The following information involves mainly forested vegetation types broken into seven segments along the Wallowa and Grande Ronde Rivers.

Minam to Rondowa - This ten mile stretch of river consists primarily of dense mature stands of mixed conifers. The east and northerly aspects (left side of the river) tend to be dominated by grand fir and Douglas-fir with larch and ponderosa pine intermingled. These sites are the most heavily stocked. The southerly and west (right side of the river) aspects are hotter and drier. On this side of the river the forest tends to be more open. Ponderosa pine is the prevalent species on these aspects. Douglas-fir, grand fir and larch are also present in significant numbers. These stands have a shrub layer consisting of ninebark, serviceberry, snowberry and other species. Tree regeneration in these stands on both sides of the river is dominated by grand fir and Douglas-fir.

Logging has occurred in the recent past on river right. A 200 ft. wide strip was logged along the railroad right of way in the 1990's.

Laminated root rot is active in the forested area along this segment of the river. Mortality has occurred and continues to occur in these stands, particularly in the fir component.

Rondowa to Forest Service Boundary - This segment of the river is in a narrow canyon. Both sides of the river are dominated by mixed fir for the first 300 yards upslope from the river. Above this, ponderosa pine becomes the dominate tree. The forested area on this stretch of river has a denser shrub component than the first segment. Both the mixed fir and pine stands are more heavily stocked than would be normal with naturally occurring fires. On the lower slopes, along the river, cottonwoods and willow are present.

Forest Service Boundary to Sickfoot Creek - Along this stretch of river, the forest is predominately grand fir. The stands are in poor condition. Laminated root rot has caused significant mortality and is still active in the stands. There are scattered ponderosa pines in these grand fir stands. Shrubs are present in the understory and hardwoods are present near the water's edge.

There is a heavy accumulation of snags and down woody debris in forested areas of this river segment. This accumulation of debris has become a fuel hazard.

Sickfoot Creek to Ward Canyon - The canyon begins to open up. Although the stands are still predominantly mixed fir more ponderosa pine is present in the stands and shrubs are present in the understory.

There has been historic homesteading and agricultural use on some of the larger benches on this river segment. Exotic hardwoods- fruit trees and black locust- are present on some of these old homestead sites. The black locust is reproducing and surviving. Ponderosa pine is beginning to reclaim some of these benches.

Ward Canyon to Troy - The river canyon continues to open up and the soils and climate are drier. The mixed fir has decreased to the point that ponderosa pine is now dominant. Shrubs are present in the understory. Hardwoods and shrub-form willow are present at the water's edge.

There has been historic homesteading and agricultural use on some of the larger benches on this river segment. Exotic hardwoods- fruit trees and black locust- are present at some of these old homestead sites. Agricultural use, grazing and farming, continues on the private lands.

Troy to Boggan's - The canyon is now at its widest. The soils and climate are warmer and drier. The fir component is no longer present. Conifer tree cover, where present, is now mostly restricted to the northerly aspects and flats along the river. Ponderosa pine is the only conifer present along the river. Many of the benches and flats along the river have shrubs; snowberry, serviceberry, mockorange, hackberry, hawthorne and others on them. Shrub form willow is abundant along the river's edge.

The easily accessible flats along the river were historically used for agricultural purposes, haying and grazing. These benches and flats are now mostly grass covered. Shrubs are beginning to reclaim ground on some of them. The remaining private lands continue to be used for agricultural purposes.

Many of the side draws and canyons that were damaged in the winter of '96-'97 are beginning to recover fairly well. Shrub form willows, alder and some cottonwood are beginning to reestablish along the stream channels.

Historically, on the benches that were not cleared for agriculture, mature/old ponderosa pine covered the benches. Nearly all of these trees have succumbed to attacks by bark beetles and a scale insect. Natural regeneration is almost nonexistent (Wallowa & Grande Ronde Rivers Final Management Plan/Environmental Assessment; December, 1993).

Boggan's to Heller Bar - This stretch of river travels through more open country. The surrounding landscape is much drier. Tree cover is limited to the draws and benches

along the river. There are scattered ponderosa pine and hardwoods, willow, and river birch along the river's edge. Scattered, large hackberry and hawthorne along with snowberry and serviceberry is also present on the benches. Shrub form willow is abundant along much of the river. Pine reproduction is sparse; only an occasional seedling/sapling with browse damage.

Every bench of any size has had historical agricultural use and many were homesteaded. On the benches that were homesteaded, there are scattered groves of exotic hardwoods; fruit trees and black locust. Sumac, *Rhus* L., species is abundant on several sites along the river.

Many of the side draws and canyons that were damaged in the winter of '96-'97 are beginning to recover fairly well. Shrub form willows, alder and some cottonwood are beginning to reestablish along the stream channels.

Below Schumaker Creek downstream to the Snake River, western juniper appears in small numbers on the upper slopes.

3.6 Wildlife

One federally listed "Threatened" species, the bald eagle, is known to inhabit the lower Grande Ronde River habitats, particularly during winter months. However, there are no known nests within the project area. The gray wolf (Endangered) and Canada lynx (Threatened) may potentially occur within the lower Grande Ronde River sub-basin. One species, the Columbia spotted frog, which is a candidate for federal listing as threatened or endangered, may also occur within the watershed.

In addition a number of BLM designated "sensitive" or "assessment" species included in the list in Appendix III may occur within the lower Grande Ronde River watershed. Most of the birds and bat species are likely to occur only as transients or winter migrants, although some of the small owl species could utilize riparian trees as nesting or roosting habitat. The burrowing owl may occur on associated upland sites as a spring-summer breeding resident. The northern leopard frog and painted turtle would utilize shoreline habitats, preferring areas of slow moving water or floodplain ponds.

Additional wildlife species of concern include mule deer, elk, Rocky Mountain bighorn sheep, chukar, and wild turkey, all of which utilize the riparian habitats and uplands adjacent to the river.

3.7 Range

The BLM administers 20 grazing leases containing BLM land adjacent to the Wallowa, Snake, and Grande Ronde Rivers in northeastern Oregon and southeastern Washington. The Wallowa and Snake River border one grazing lease each. The remaining 18 leases are located adjacent to the Grande Ronde River and include a number of perennial and ephemeral tributaries.

Historically, the areas within and encompassing the BLM grazing leases were homesteaded for use as cattle ranches. Evidence of old homesteads can be seen throughout the area as dilapidated buildings, old fence lines, farm implements, and remnant fruit orchards. Flat benches, terraces, and ridge tops were plowed for hay, grain, and crop production wherever soils were adequate. However, the extreme topography limited farming practices and livestock operations remained the primary use activity.

Generally, the leases are composed of small, scattered BLM tracts encompassed by larger private landholdings. The majority of BLM tracts within the grazing leases are not separated from the surrounding private lands by fence line or natural barriers.

In 1992, the Baker Resource Area, Vale District began consultation for BLM actions on the Grande Ronde River for ESA listed species. Shortly thereafter, mitigation for impacts from grazing and noxious weeds began. This included fencing, changes in grazing seasons of use, weed treatment, seeding, and planting of trees and riparian vegetation.

Since 1992, BLM has constructed 11 enclosure fences within seven grazing leases adjacent to the Grande Ronde River. Four of these enclosures encompass the confluence of tributaries to the Grande Ronde including, Sickfoot, Mud, Squaw, Coyote and Bear Creeks. Drift fences have been installed on two leases across ridge tops in order to prevent livestock utilization on lower benches adjacent to the Grande Ronde. Fencing of these areas has allowed for more intensive management and rehabilitation efforts.

Eleven leases are included in Section 7 monitoring as required by the Level 1 team and are reported in an Annual Monitoring Report. All leases receive utilization monitoring and use supervision throughout the grazing season pursuant to section 7 of the Endangered Species Act. Interagency Implementation Monitoring (IIT) is conducted on leases as required.

The BLM, through the development of the final grazing regulations (1995), was directed to formulate State or regional standards and guidelines for rangeland health. The objectives of these new regulations are to promote healthy, sustainable rangeland ecosystems, to accelerate restoration and sustainability of the western livestock industry and communities that are dependent upon productive, healthy rangelands. Statewide standards and guidelines were developed for Oregon and Washington and finalized on August 12, 1997, after a process which incorporated public participation and assistance from the Resource Advisory Councils.

In July 1998, the Oregon/Washington BLM State Office provided the various districts with a strategy for implementing the new Standards and Guidelines (S & Gs). These S & Gs address the following issues: Upland Watershed Function, Riparian/Wetland Watershed Function, Ecological Process, Water Quality, and Native Threatened and Endangered Species (T & Es), and Locally Important Species. In the event that any standard is not met, and the cause is attributed to current livestock management, the BLM is required to make needed management changes that will move conditions towards

meeting that standard. The guidelines for livestock grazing management are presented in detail on pages 15-18 of the final version of “The Standards for Rangeland Health and Guidelines For Livestock Management for public lands administered by the Bureau of Land Management in the states of Oregon and Washington” (August, 1997). Although independent of this analysis, references to the S & Gs are presented as additional information to this document.

In June of 2000, S & Gs field work was conducted for all leases along the Grande Ronde River and one lease along the Snake River in southeastern Washington. A Record of Determination (ROD) was completed for each of the leases in January of 2003. The RODs and detailed information from which they were written can be found on file at the BLM office in Baker City, Oregon.

4.0 Environmental Consequences

4.1 Alternative A (No Action)

4.11 Fisheries

The No-Action alternative has the opportunity to improve fish habitat, riparian areas, and water quality. The No Action alternative gives guidance within the RMP to improve fish-bearing streams, riparian areas and water quality. The current BA for the Lower Grande Ronde River and the management plan for the Wild and Scenic Rivers allows for restoration activities to occur. Current exclosures and the implantation of the Standards and Guides will set specific goals and objectives in riparian areas. Utilization levels will help restore the riparian areas slowly over time.

Conifer planting and hardwood planting by machine would not occur. Riparian areas that historically had larger conifer stands and hardwood areas near or on riparian flats would not be restored in the short term. This could create additional down-cutting and loss of spring or wetland habitat contained within riparian benches adjacent to the river.

4.12 Hydrology and Soils

There would be no impacts to the hydrology resource under the No Action alternative. Current hydrological processes would continue and riparian areas previously disturbed would slowly improve.

Riparian areas and streambanks currently eroding would continue to contribute sediment at existing rates. Natural regeneration of vegetation in these areas would take place slowly (possibly decades to re-establish native vegetation). This natural establishment of vegetation would have to take place before sedimentation and bank erosion rates would decrease in areas where little or no vegetation currently exists on the streambanks.

4.13 Recreation

There would be no impact from the No Action alternative on the existing recreation resources within the Wallowa and Grande Ronde River systems. The river environment would remain as it currently exists. Changes in the vegetation/shoreline will occur at a much slower rate with periodic set backs due to high water events.

4.14 Visual Resource Management

Under the No Action alternative, the current situation would remain and the original VRM determination would not be affected.

4.15 Vegetation

4.15.1 Plant Communities

The No Action alternative would have no impact on any federally listed plant species. Neither MacFarlane's four-o'clock, nor Spalding's catchfly are known or likely to occur within the river corridor.

Impacts of the No Action alternative to other special status plant species are associated with a slower rate and lesser degree of long-term ecological change resulting from recovery of native plant communities than under the proposed action. Competition with non-native annual grasses and noxious weeds would not be changed in the short to mid-term. In general, natural expansion of special status species into the habitats would occur at a slower rate than under the preferred action. Reduction or exclusion of grazing in specific sites would probably occur under implementation of Rangeland Standards and Guidelines, but could be expected to take longer to accomplish than under the preferred alternative because of lower priority and lower funding levels.

4.15.2 Forested Vegetation

Under the No Action alternative, there would be no effort made to replant hardwoods or conifers along the river. Existing trees that are above browse level would continue to survive and grow until insect, disease, flood or fire causes mortality. Big game and domestic livestock would continue to use some of the flats along the river. Any natural reproduction which may occur would be subjected to severe browse damage by animals.

The availability of large trees to shade the edge of the river, provide roosts and perches for birds, or provide future large down wood for the river's edge along the river between Troy and Heller's Bar would continue to be deficient for the foreseeable future. The upper river between Minam and Troy would continue to have large trees available through most of the area for the immediate future.

4.16 Wildlife

Impacts of the proposed action to wildlife species are associated with a slower rate and lesser degree of long-term ecological change resulting from recovery of native plant communities than under the proposed action. Competition with non-native annual grasses and noxious weeds would slow establishment of native herbaceous and woody species by fifteen to twenty years over the expected rate of recovery through active restoration. The degree of change from the proposed alternative would be unlikely to cause a measurable change in local wildlife populations.

4.17 Range

Under this alternative, implementation of Rangeland Standards and Guidelines would continue as identified in the Record of Determination for each grazing lease. Monitoring and utilization as required by the Biological Opinion for the Grande Ronde River drainage would also continue. Maintenance of exclosures and drift fences will continue. Non-use of the existing exclosure areas would remain a term and condition of the BLM grazing permit. Rehabilitation and restoration of the rangeland resources would continue at current levels and in compliance with Rangeland Standards and Guidelines. Weed treatments within the grazing lease areas would continue as authorized by the Vale District programmatic noxious weed EA.

4.2 Alternative B (Proposed Action)

4.21 Fisheries

The proposed restoration plan is designed and planned to improve fish habitat, riparian areas and water quality. The direct affect to Threatened and Endangered (T&E) listed fish as a result of the conifer planting, riparian hardwood planting, seeding, burning and machine use is low. All restoration plan activities, long term, will have a beneficial impact to fish and fish habitat.

This alternative will create improvements for fish habitat over a shorter time than the no action alternative. Planting, seeding, exclosures and burning will promote faster restoration of the riparian vegetation and help stabilize streambanks faster than the no action alternative. There will be less sediment production, increased streambank protection, and increased shade as native vegetation is established. This will have a positive effect to aquatic habitat.

Machine planting has the highest potential to affect current conditions. An excavator will be contracted during one year to plant hardwoods, conifers and shrubs upstream of Boggan's where river crossing can occur. Stream crossings will be limited and will be supervised by the BLM fisheries biologist and/or hydrologist to make sure there is no damage to spawning activities. All machine activities will be directed by BLM personnel to ensure the protection of all the resources including fish habitat (see project design features in Section 2.3). Planting with the machine ensures higher survival of hardwoods

and conifers. They are usually an older plant (1-3 years) that has better root growth than those planted by hand (0-1 year). This alternative will promote more miles of vegetation restoration which help to capture sediment, improve streambanks and shade qualities, and would occur quicker than the no action alternative.

While machinery would be operating in the riparian habitat conservation area (RHCA) for some planting activities, any adverse impacts to the RHCA would be negligible due to the fact that river crossings would occur in areas where riparian vegetation is currently lacking or non-existent, fueling would occur on existing roads or turnouts with adequate spill prevention equipment on site, the use on bio-degradable hydraulic fluid would be required to reduce impacts should a hydraulic hose break during planting, and monitoring would ensure that no redds are impacted during the project.

Machine planting would occur outside of established in-stream work windows that have been developed by ODFW and WDFW. This is necessary to ensure that the seedlings have the best chance of survival and when river flows are low to allow machinery to cross the river safely. Mitigation outlined in Section 2.3 would minimize potential impacts to redds by requiring a BLM fisheries biologist and/or hydrologist to scout out potential crossing sites before the machinery is on site and again during the actual crossing so that any and all redds will be avoided by the machinery.

Potential affects on salmon, steelhead and bull trout from increased activities on the riparian floodplains and bank stability is 'low'. Bank stability is a general concern due to instability from previous floods. Planting and seeding will increase native vegetation on banks that are currently unstable and decrease sediment production from these banks. The restoration sites are located next to the river and will receive increased use during the short duration activity period (one–two days). This may result in some vegetation trampling causing disturbance of vegetation and areas of bare soil, however this would be very isolated and small in nature as most crossings would occur where there is currently rock and cobble and little or no vegetation currently. Long term, this alternative will help to restore the function of wetland and riparian vegetation and promote better water quality.

Potential affects on the T & E fish species in the subbasin for sediment are low. Most activities do have a minor component of the projects to create bare soil. Most areas will be very small and/or not located in the normal floodplain of the river. No activities will create bare soil in draws or drainage areas to the river. Most of the areas traveled during the projects will be on existing roads or on the cobble flats, except during the machine planting/seeding/burning/exclosure construction part of the activity.

The BLM has completed consultation with NMFS and USFWS for the Wallowa River portion of the project. Consultation is on-going for the Grande Ronde River portion of the project. Any terms and conditions specified from NMFS and/or USFWS as a result of consultation will be adhered to and incorporated into the project design features.

4.22 Hydrology and Soils

While the BLM manages a relatively small amount of land within the Lower Grande Ronde Subbasin, the BLM does manage a substantial amount of shoreline and land adjacent to the Wallowa and Grande Ronde Rivers within the project area.

Approximately 49 shoreline miles are managed by the BLM within the project area.

While not all of this land is in need of restoration, some areas have been identified by an interdisciplinary team where restoration activities would result in beneficial impacts for riparian, aquatic, and terrestrial organisms and habitat. Consultation between the BLM and the regulatory agencies has occurred and the regulatory agencies also agree that the restoration activities contained within the proposed action would be beneficial.

The proposed action has a slight chance to directly impact the hydrology resource through the use of machinery crossing the Grande Ronde River. This impact is mitigated by the use of project design features (PDFs) listed in section 2.3 including, but not limited to; the use of biodegradable hydraulic fluid, limiting the number of river crossings, proper spill kits on site, and crossing when river levels are low.

Impacts to the soils resource would be limited to compaction from the machinery during planting and impacts from prescribed burning. Compaction will be mitigated by limiting the number of times the machine can pass over the same piece of ground. In most planting areas, the machine will cross the river, start planting and move along the site to the end, and then cross the river back to the road resulting in only one pass over the site with the machine. In addition, much of the ground that the machine would travel on is cobble bars where soil compaction is not a concern.

Impacts to soil due to prescribed fire should be minimal. Broadcast burning within the planting sites is not expected to cause appreciable impacts due to the timing and desired outcome of the burning. Broadcast burning would take place when fine fuels left on the ground and grasses could be consumed without damaging established trees on site. This timing would be during the spring when the soil, duff, and large fuel moisture contents are high, or in the fall after enough moisture has been received to accomplish the burn plan prescriptions. In addition, areas proposed to be burned are less than 5 acres in size. Grasses and shrubs may be killed by the fire which could for a short time (one growing season) increase the amount of bare soil in the project area. During this time storm events such as a summer thunderstorm could cause some surface erosion within the project area, however no measurable sediment would be expected to be mobilized because of the gentle topography of the area, the relatively small amount of acreage proposed to be burned, and the surrounding vegetation that would most likely intercept sediment before it reached the Grande Ronde River or adjacent streams. Burning should not affect streambank stability as the sites proposed for burning are on flats adjacent to the Grande Ronde River yet outside the normal floodplain. As such, vegetation currently established which is contributing to stable streambanks would be outside the areas proposed for broadcast burning.

Restoring riparian vegetation and controlling noxious weeds along the Wallowa and Grande Ronde Rivers and tributaries in the project area will result in beneficial cumulative impacts of decreased sedimentation, increased shade, improved riparian and in-stream habitat, and provide a source of future large woody debris.

This project also addresses some water quality problems that have been identified by the State of Oregon. As stated above, both the Wallowa River and the Grande Ronde River are listed on Oregon's 1998 303 (d) List of Water Quality Limited Water Bodies (DEQ, 1998). The project proposal and design of establishing riparian vegetation will decrease sediment from streambanks over what is currently occurring, as well as increase shade and prevent increases in the width/depth ratio of the streams, which can lead to loss of pool habitat. Conifer planting will help provide for future large woody debris. Treatment of noxious weeds will help to re-establish native vegetation in the riparian areas as well as uplands. While these treatments may not cause the rivers to be removed from the 303(d) list, they should provide for beneficial cumulative impacts of increasing shade, reducing sedimentation, increasing the percentage of stable streambanks, increasing large woody debris, and improving instream and riparian habitat; all of which are reasons that the Wallowa and Grande Ronde Rivers are currently listed as water quality limited (DEQ, 1998).

4.23 Recreation

The impacts from the Proposed Restoration project would be minimal on the recreating public of the Wallowa/Grande Ronde river system. The timing of the restorations activities would coincide with a period of little use by the public in the same area. Lower water flows necessary to accomplish the restoration project also preclude float boating traffic of the same area by the public. Although there will be some incidental use along the shoreline and an occasional float boater, that use should either not be impacted or will relocate to avoid restoration activities.

Vegetation improvement after the restoration project will be beneficial to the recreation resource of the river system by providing a more aesthetic shoreline environment. This influx of vegetation will, in time, reduce the broken/eroded banks and "barren" grass benches, providing a more "natural" appearing shoreline, and benches with a greater diversity of vegetation. This will add greatly to the attractiveness of the river system to recreationists.

4.24 Visual Resource Management

It has been determined that the proposed restoration activities under the "Proposed Alternative" will meet the objectives of the VRM Class II designation for the Wallowa and Grande Ronde river systems as identified in the Wallowa and Grande Ronde Rivers Final Management Plan/EA. Therefore, detailed analysis was not necessary.

4.25 Vegetation

4.25.1 Plant Communities

The proposed action would have no impact on any federally listed plant species. Neither MacFarlane's four-o'clock, nor Spalding's catchfly would be expected to occur naturally in the habitats being impacted by the actions, and are not likely to expand into those habitats.

Impacts of the proposed action to other special status plant species are associated with long-term ecological change resulting from recovery of native plant communities and reduced competition with non-native annual grasses and noxious weeds. In general, these changes would promote conditions suitable for natural expansion of special status species into the habitats. Reduction or exclusion of grazing in specific sites may also directly benefit some species, particularly the Nez Perce mariposa lily (*Calochortus macrocarpus* var. *maculosus*) and several species of sedge (*Carex* spp.).

4.25.2 Forested Vegetation

After the completion of the proposed weed treatments, trees appropriate to the site would be planted on the flats along the river between Troy and Heller's Bar. The trees would be planted using a variety of methods – from hand tools to an excavator with a probe to push holes through the coarse gravel areas that would be impossible to plant by hand. Tree size would range from plugs (six inches tall) to transplanted plugs up to five feet tall. Cuttings may also be planted, especially for hardwoods. Trees would be planted at a random spacing.

Planting may need to be repeated on some of the sites to attain a minimum desirable number of trees.

Newly planted trees would have three-foot squares of paper mulch placed around them to reduce competition from grass. Wire cages 18 inches in diameter, five feet tall would be placed around each tree to protect them from animal browse. The cages would be left in place until the top of the tree is over five feet tall. This should allow the trees to escape damage by browsing animals. After the trees have reached a height greater than five feet the wire cages would be removed.

Some trees may have a product called "Hot Sauce" animal repellent sprayed on them to see if it will protect the trees from animal damage. If the "Hot Sauce" is successful in protecting the trees, it may be used in place of wire cages in the future, especially on planting sites which are difficult to access.

A few selected sites with existing conifers may have small (less than five acres) patches burned under the conifers to see if natural regeneration can be established. These burned areas would require protection from animals as well through the use of temporary fencing.

Once trees are established on the flats, they would be allowed to grow into old growth trees. These trees would provide shade, roosts/perches, and future large woody debris along the river and adjacent streams.

4.26 Wildlife

Impacts of the proposed action to wildlife species are associated with short-term (1 to 3 days per site) local disturbance resulting from the presence of planting crews and equipment, and longer term ecological change resulting from recovery of native plant communities.

Disturbance from human activity would occur mostly in late fall. The wildlife species of concern would be relatively mobile at that time of year, and would simply avoid the vicinity of the treatment sites during the activity. Less mobile species such as amphibians and reptiles would likely be dened or dormant at that time of year.

The ongoing process of ecological change would be accelerated by direct re-introduction of native plant components on sites where those species have been eliminated or severely reduced by historic human activity, grazing pressure, or flood damage. The degree of change from the slow natural process of change would be unlikely to produce a measurable change in local wildlife populations, but would accelerate the recovery of native habitats and increase site diversity by at least fifteen to twenty years over the expected rate of natural change. Fencing and protection from grazing would likely result in the establishment and dominance of some shoreline riparian habitat components that might otherwise never develop to full potential.

The long-term, cumulative effects of habitat recovery would be positive for all wildlife species of concern, resulting in increases in habitat diversity and complexity, and increase in interspersed high-value riparian cover and forage. Also, there would be a likely decrease in the rate of noxious weed infestation and dominance as perennial native plants are re-established on disturbed sites.

Bald eagles use the project area for roosting; however there are no known nests within the project area. The proposed action is in conformance with the Bald Eagle Recovery Plan. The gray wolf and Canada lynx will not be affected by the planting, seeding, burning, fence construction, and/or machine use along the river corridor. There would be no effect to any Threatened or Endangered listed wildlife species with the proposed project.

The BLM has completed consultation with NMFS and USFWS for the Wallowa River portion of the project. Consultation is on-going for the Grande Ronde River portion of the project. Any terms and conditions specified from NMFS and/or USFWS as a result of consultation will be adhered to and incorporated into the project design features.

4.27 Range

Sites identified by the ID Team as in need of restoration activities include nine BLM grazing leases; eight adjacent to the Grande Ronde River and one bordering the Snake River. This includes work within established exclosure areas, sites which have had no previous restoration activities, and the installation of a cattleguard along the Snake River Road. Due to the small proximity of the identified sites, and number of current exclosures the proposed action will have very little affect on the BLM grazing leases.

Restoration projects will include weed treatments and riparian and upland vegetation seeding and planting, as determined necessary for each individual site. Generally, two years of non-use following planting and seeding is required. However, requirements will be dependent upon treatment type and IDT recommendations.

Grande Ronde River

Of the identified project locations along the Grande Ronde River, BLM has proposed installation of fence lines at five locations within three separate grazing leases. Each lessee has been notified of the proposed fence lines and their function in preventing livestock from utilizing the benches and shorelines adjacent to the river.

Due to the location of the proposed sites, restoration activities would not be impacted by livestock because the sites are either fenced off or there is no active grazing taking place. Restoration work will occur within six established exclosure areas and one site protected by an upper ridge drift fence. As the lessees have previously taken non-use at these locations, there will be no modifications to their grazing management. The remaining locations involve sites that are not exclusive of livestock. However, one lessee has elected to take non-use of the BLM land since 1996. This lease borders approximately five miles of the lower Grande Ronde River.

Snake River

Installation of a cattleguard and side fencing along the Snake River Road in Asotin County, Washington has been proposed to reduce unauthorized utilization by livestock along riparian areas bordering the Snake River. Due to the Open Range law along this portion of the river corridor, installment of this cattleguard could result in concentration of livestock on adjacent private lands which are currently not fenced. The installation of the cattleguard is expected to improve riparian and upland conditions on BLM managed land over time, as less trespass cattle will enter the lease area.

4.3 Monitoring

Implementation monitoring of machine planting areas would occur, including identification and avoidance of any redds at river crossing sites. Machinery would be inspected before implementation to ensure adequate spill prevention kits are on site and bio-degradable hydraulic fluid is used.

Planting and seeding sites would be monitored to check survival of plants and

determination of whether any re-planting and/or re-seeding are necessary to meet objectives.

Where protection measures such as wire mesh cages and/or big game repellent is used, monitoring would occur to ensure adequate protection of plants from ungulate browsing.

Streambanks would be monitored to document any increase in streambank stability due to planting treatments.

Culvert replacements would be monitored to ensure that culverts are properly seated to avoid increased erosion and downcutting.

Prescribed burning sites would be monitored to determine effectiveness in enhancing natural conifer regeneration and to ensure that no riparian vegetation is disturbed or any increase in bank instability occurs.

5.0 List of Preparers

Todd Kuck – Hydrologist and Soils. Team Leader

Clair Button – Botanist and Wildlife

Walt Wood – Forester

Jackie Dougan – Fisheries Biologist

Cindi Burton – Range

Mike Woods – Noxious weeds

Kevin McCoy – Recreation

6.0 List of Agencies and Persons Consulted

U.S. Fish and Wildlife Service

National Marine Fisheries Service

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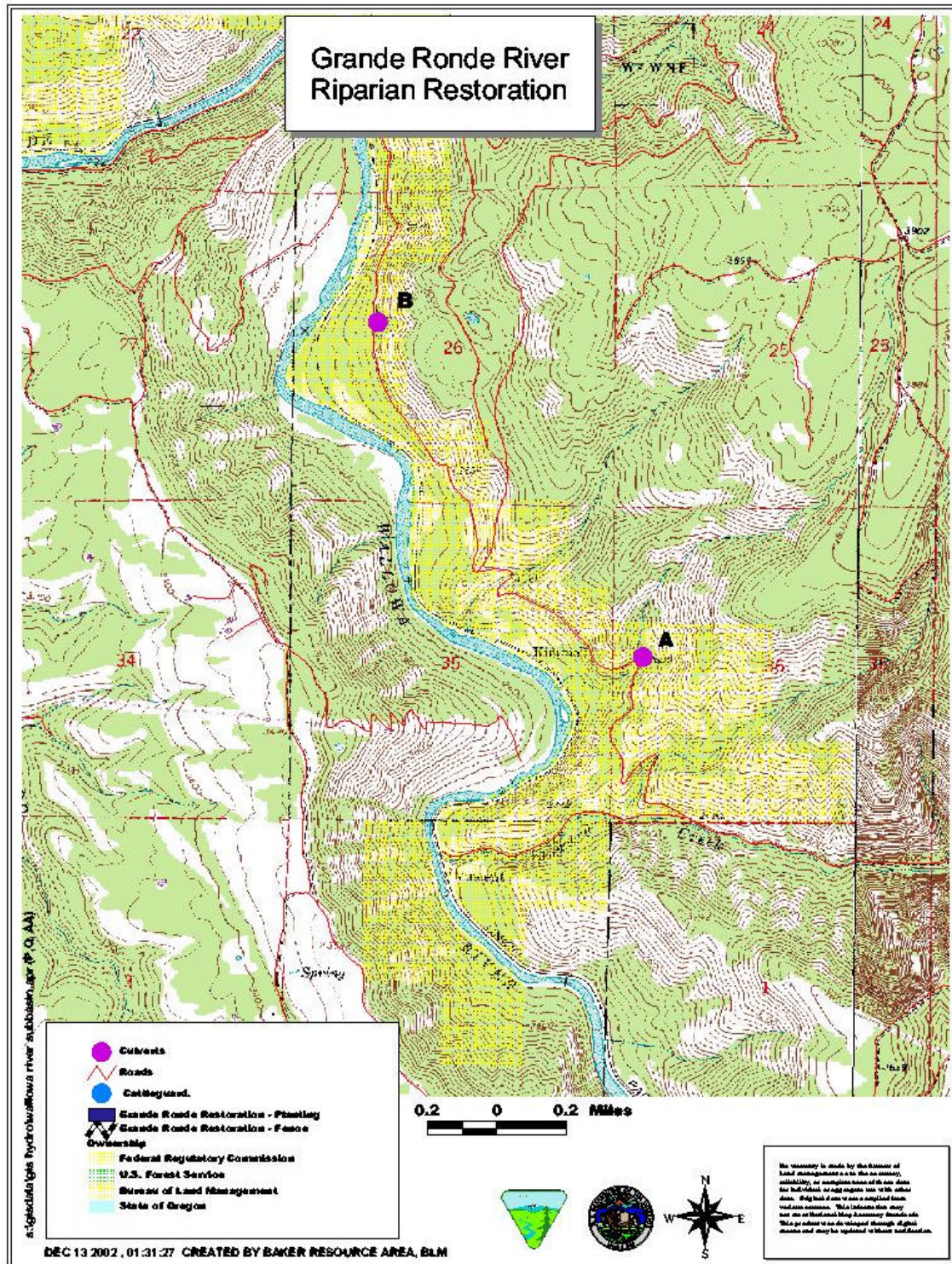
D) Appendix I – Special Status Plants

LOWER GRANDE RONDE RIVER BASIN - SPECIAL STATUS PLANTS

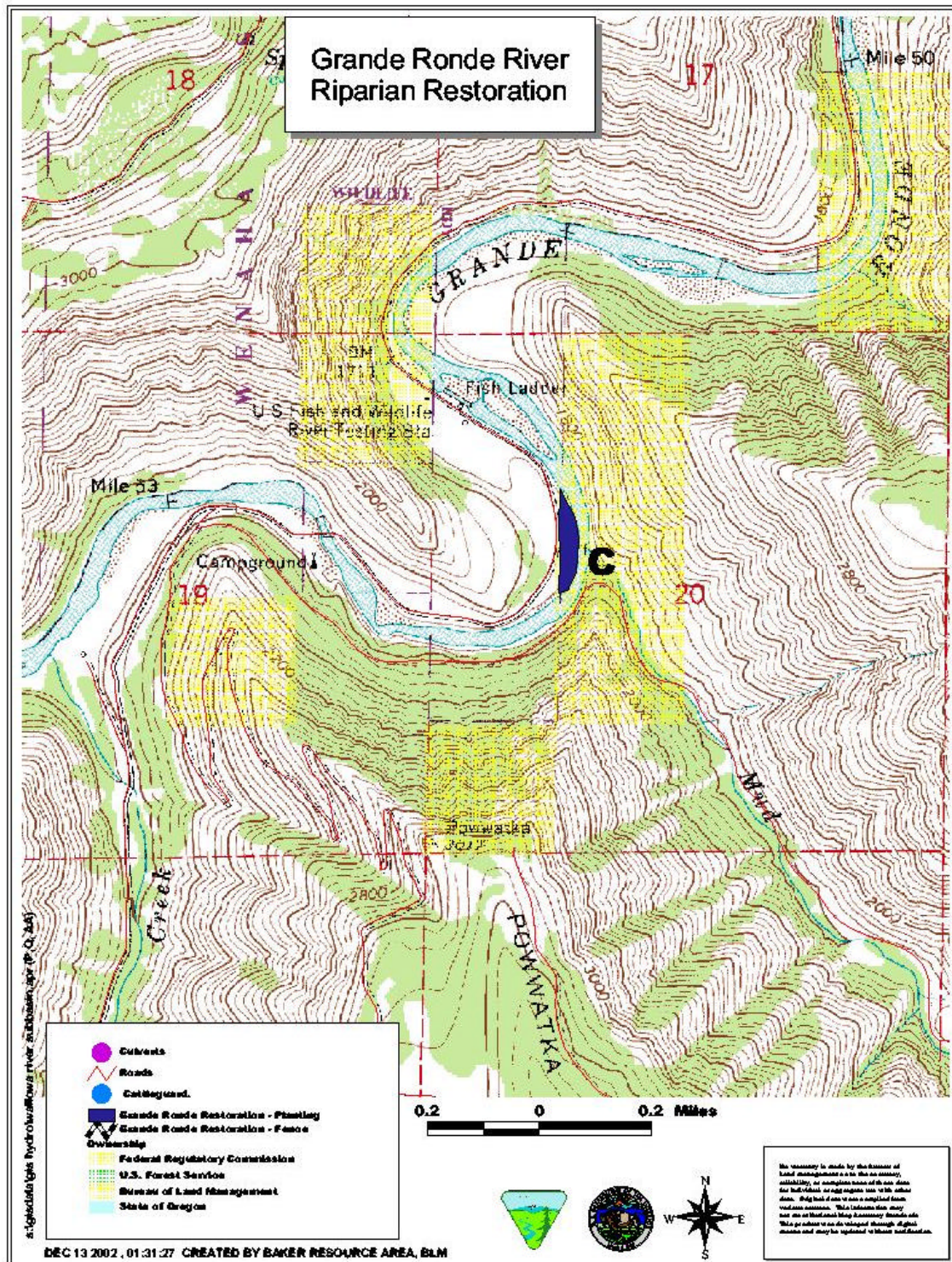
SPECIES	STATUS CATEGORIES			COMMON NAME
	FED	BLM-OR	BLM-WA	
<i>Achnatherum wallowaensis</i> Maze & K.A. Robson			BS	WALLOWA RICEGRASS
<i>Arabis crucisetosa</i> Constance & Rollins			BA	CROSS-HAIRED ROCKCRESS
<i>Astragalus arthurii</i> M.E. Jones			BA	ARTHUR'S MILK-VETCH
<i>Bolandra oregana</i> S. Wats.			BA	OREGON BOLANDRA
<i>Calochortus macrocarpus</i> Dougl. var. <i>maculosus</i> (A. Nels.)			BS, BA	GREEN-BAND MARIPOSA-LILY
<i>Calochortus nitidus</i> Dougl.			SoC, BS	BROAD-FRUIT MARIPOSA-LILY
<i>Carex backii</i> Boott			BA	BACK'S SEDGE
<i>Carex bebbii</i> Olney ex Fern.			BA	BEBB'S SEDGE
<i>Carex hystericina</i> Muhl. ex Willd.			BA	PORCUPINE SEDGE
<i>Cyperus bipartitus</i> Torr.			BA	SHINING FLATSEDGE
<i>Cyperus schweinitzii</i> Torr.			BA	SCHWEINITZ'S FLATSEDGE
<i>Erigeron disparipilus</i> Cronq.			BA	WHITE CUSHION ERIGERON
<i>Hackelia hispida</i> (Gray) I.M. Johnston var. <i>hispida</i> (Gray)			BA	ROUGH STICKSEED
<i>Lomatium rollinsii</i> Mathias & Constance			BS	ROLLINS' LOMATIUM
<i>Lomatium salmoniflorum</i> (Coult. & Rose) Mathias &			BS	SALMONFLOWER BISCUITROOT
<i>Lomatium serpentinum</i> (M.E. Jones) Mathias			BA	SNAKE CANYON DESERT-PARSLEY
<i>Mimulus hymenophyllus</i> Meinke			SoC, BS	MEMBRANE-LEAVED MONKEYFLOWER
<i>Mimulus washingtonensis</i> Gandog.			SoC, BS	STALKED-LEAVED MONKEYFLOWER
<i>Mirabilis macfarlanei</i> Constance & Rollins			LT, BS	MACFARLANE'S FOUR-O'CLOCK
<i>Ribes cereum</i> Dougl. var. <i>colubrinum</i> C.L. Hitchc.			BA	WAX CURRANT
<i>Ribes oxycanthoides</i> L. ssp. <i>irriguum</i> (Dougl.) Sinnott			BA	IDAHO GOOSEBERRY
<i>Silene spaldingii</i> S. Wats.			LT, BS	SPALDING'S CAMPION
<i>Suksdorfia violacea</i> Gray			BA	VIOLET SUKSDORFIA
SoC Species of Concern				
LT Listed, Threatened (ESA)				
BS Bureau Sensitive				
BA Bureau Assessment				

II) Appendix II – Project Area Maps

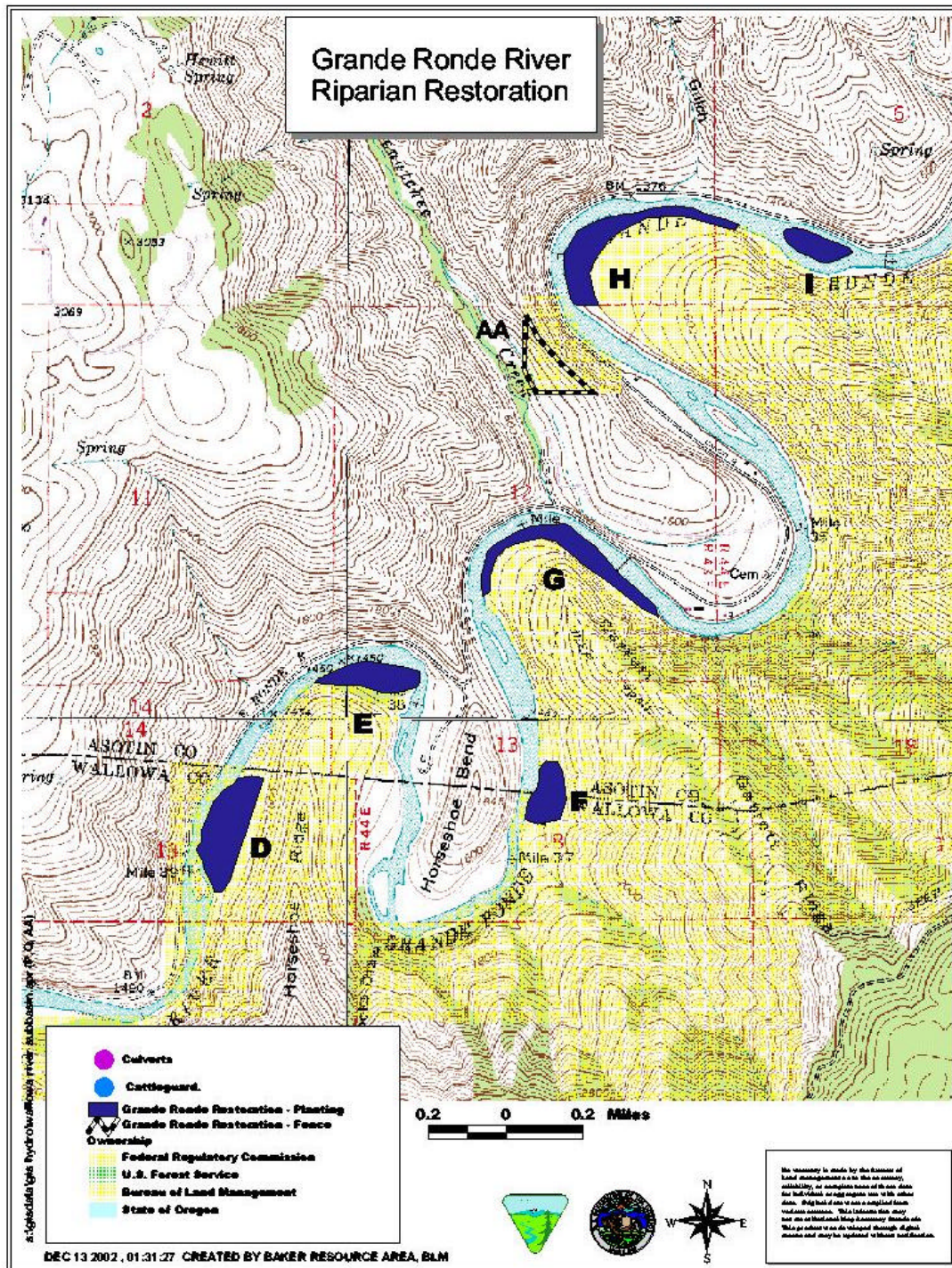
Map A



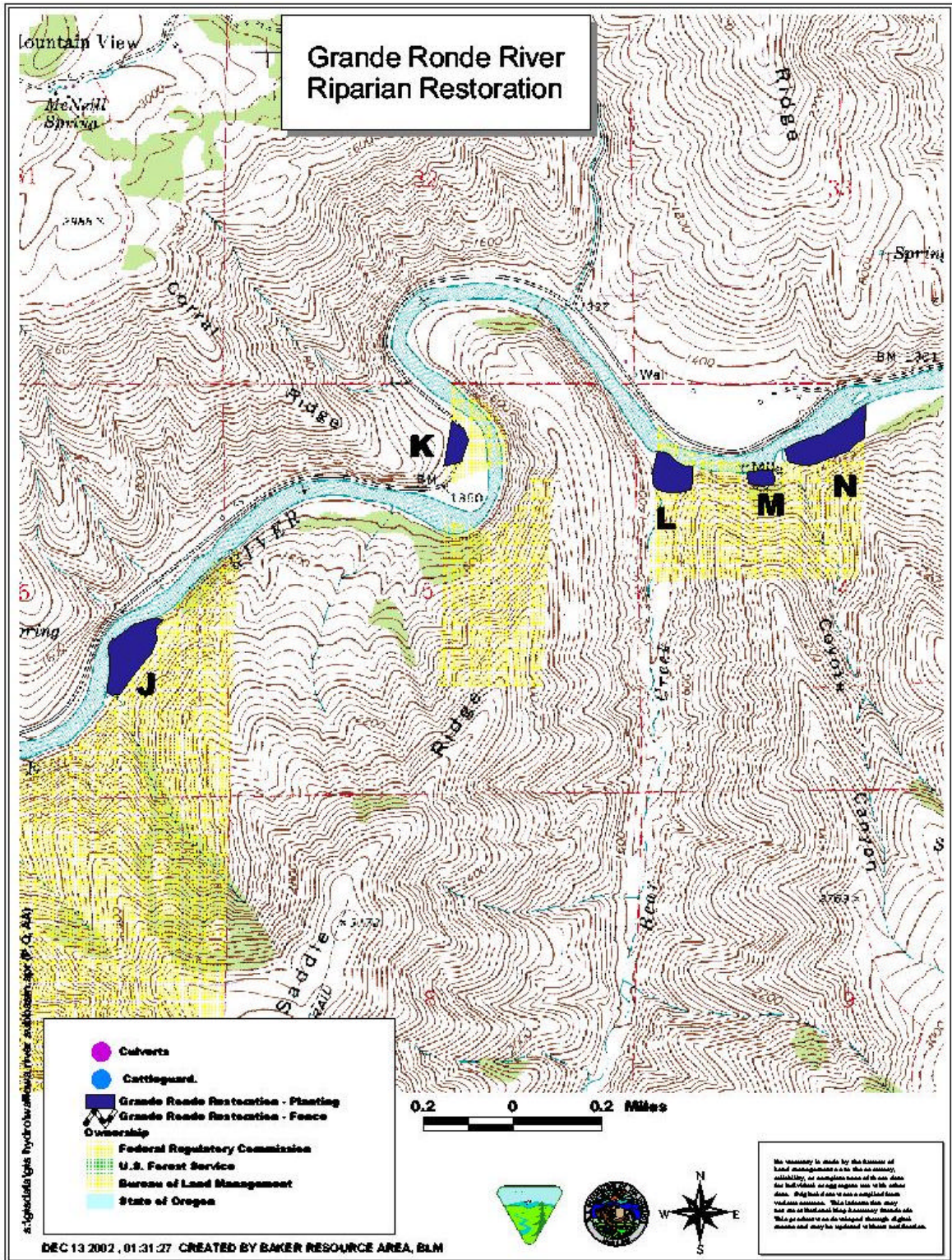
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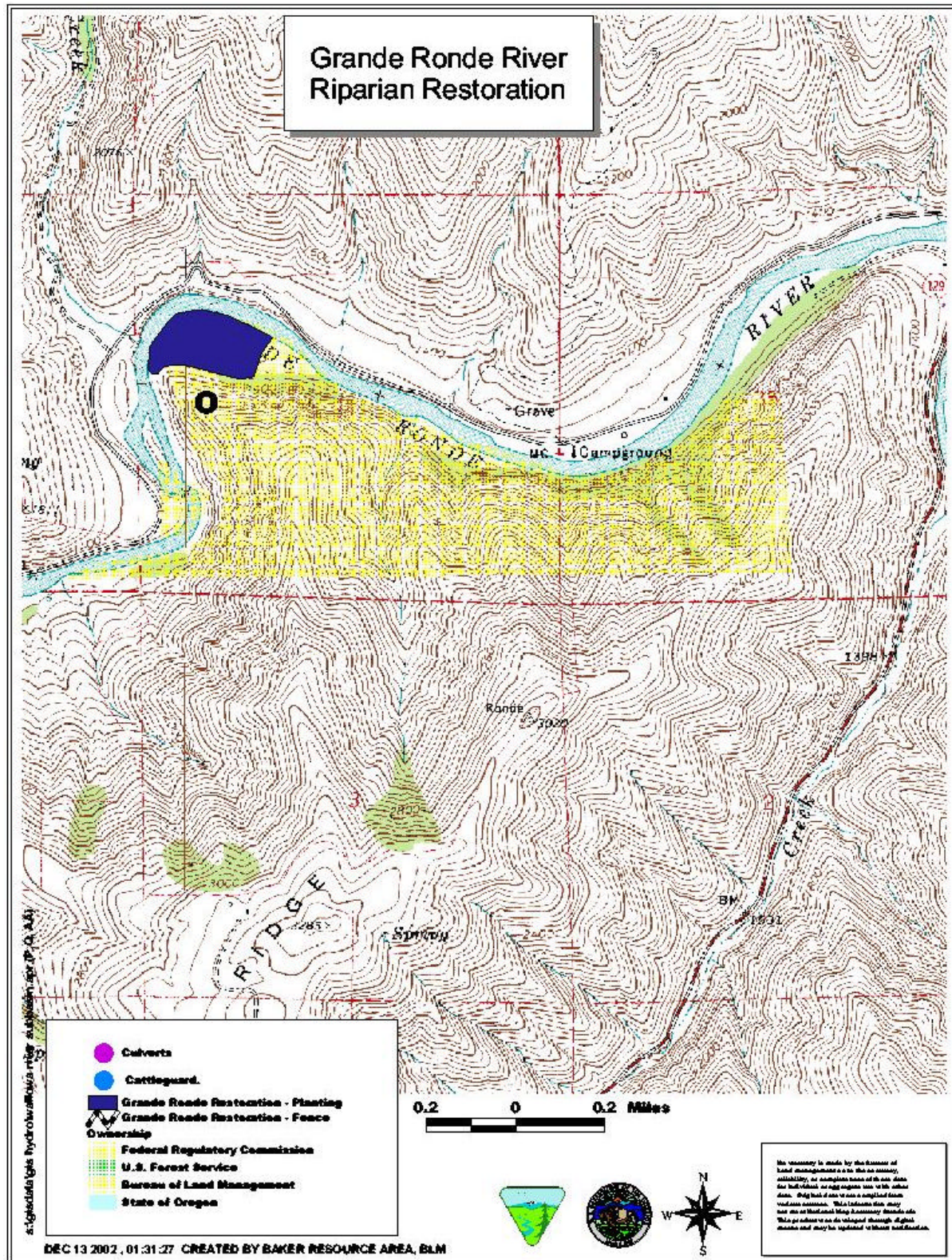
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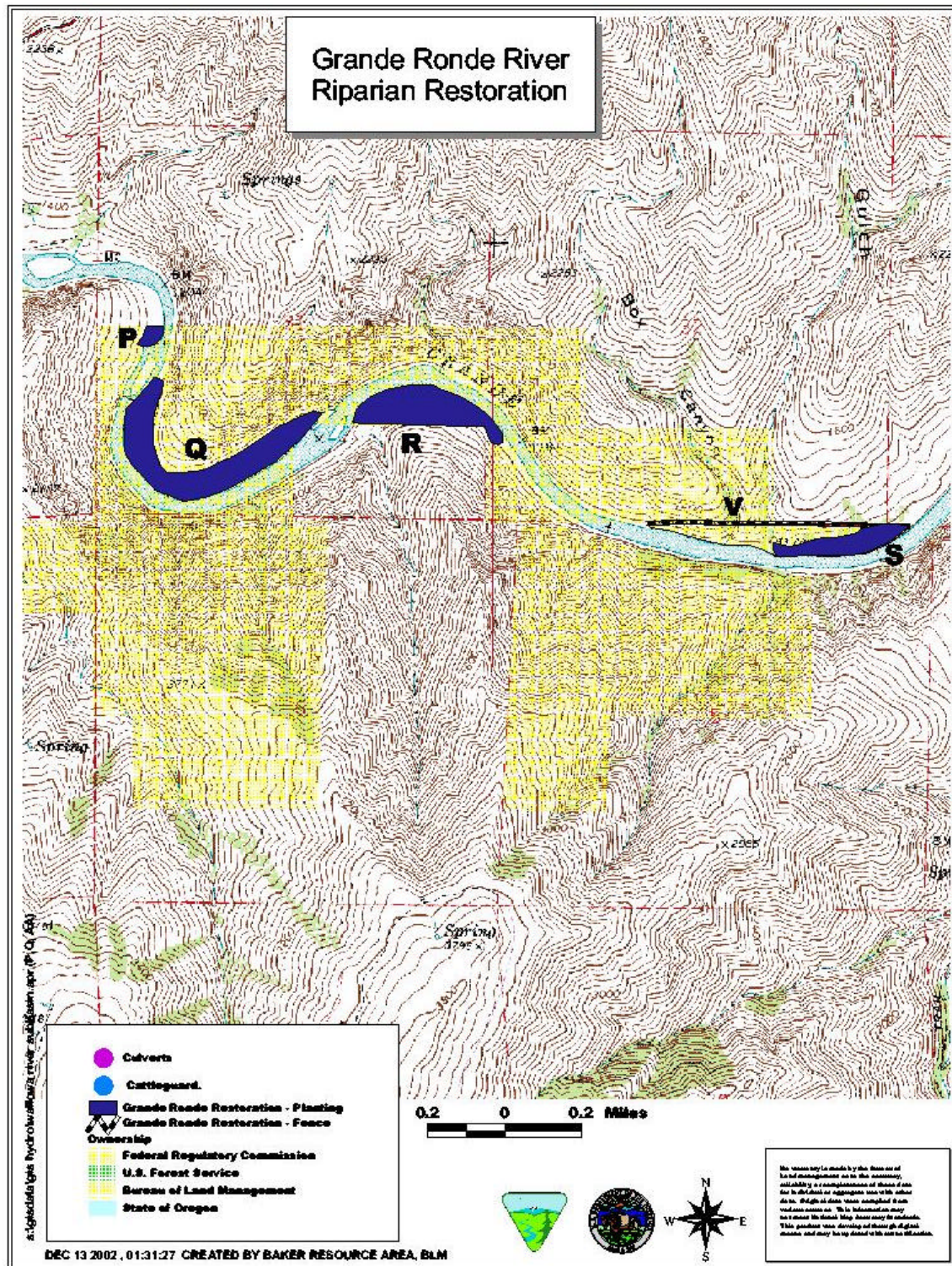
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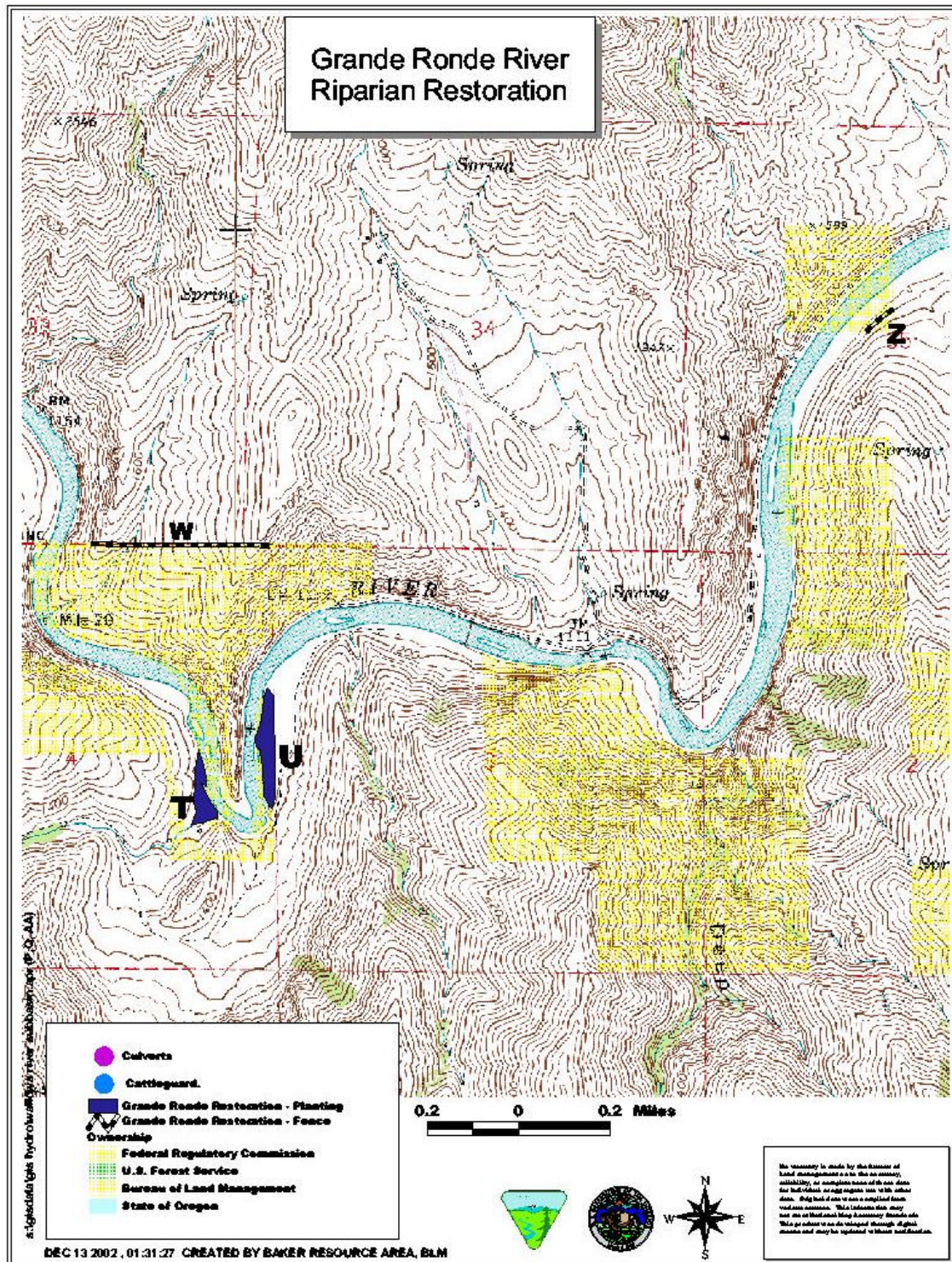
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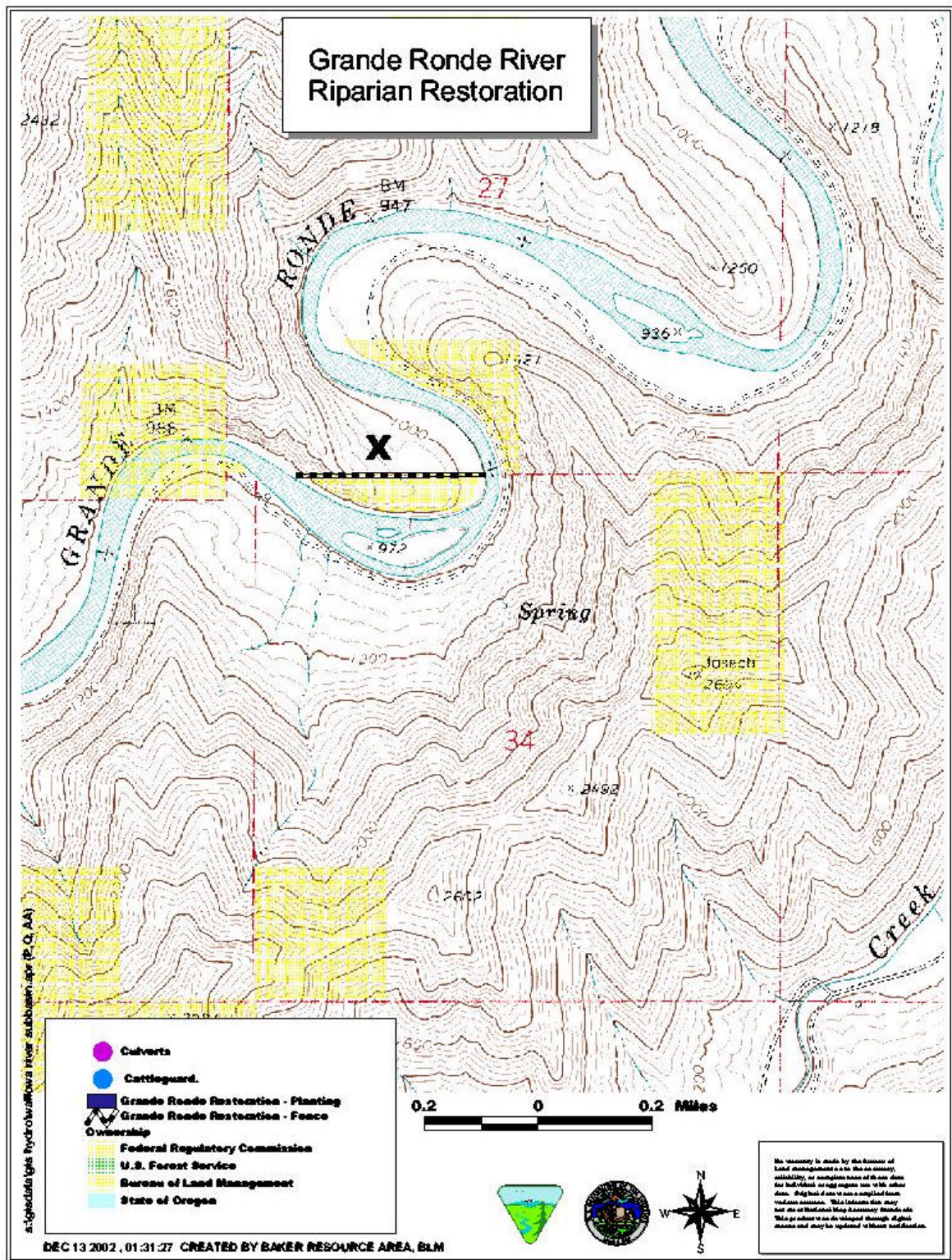
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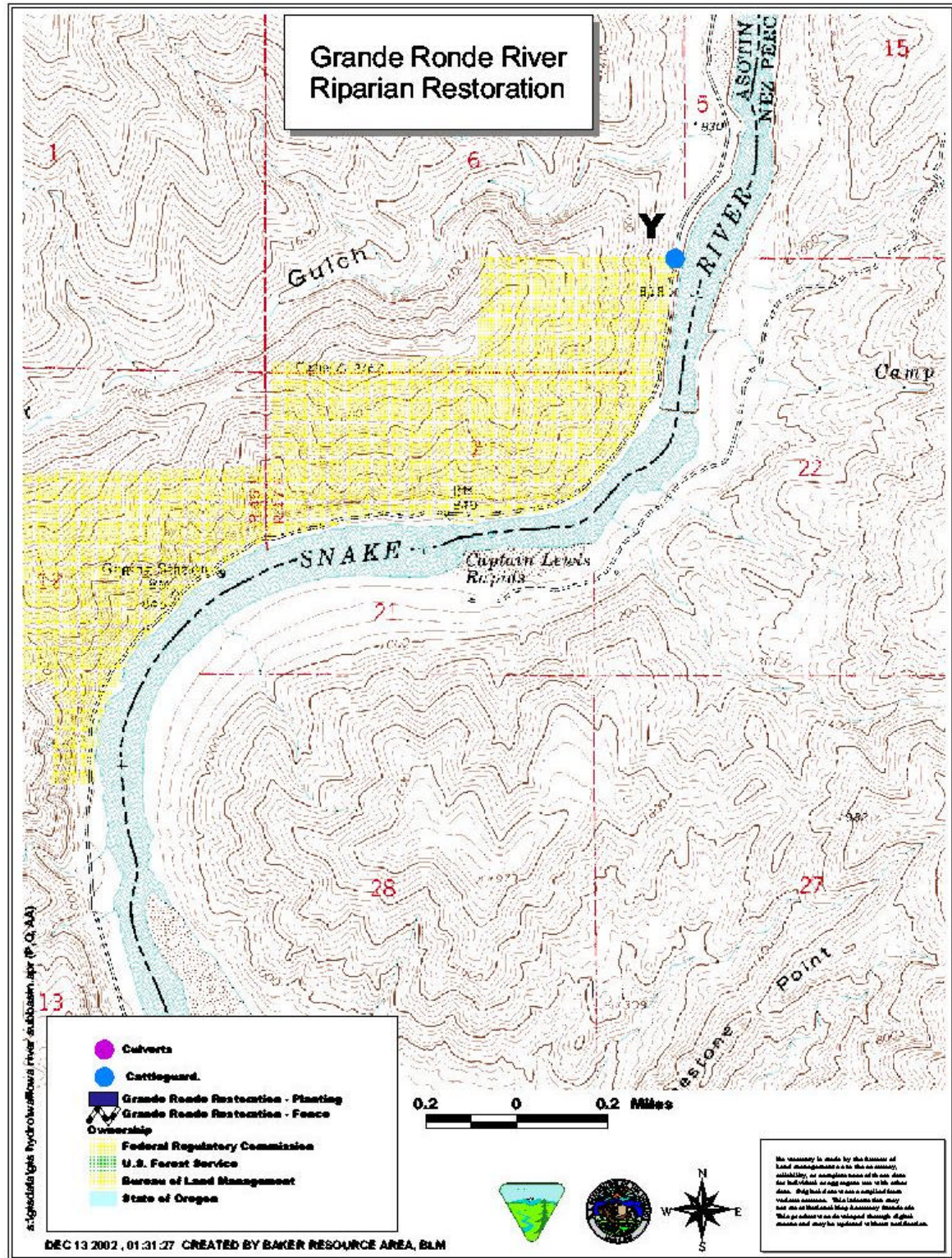
Map G



Map H



Map I



III) Appendix III – Special Status Wildlife

Bald Eagle	<i>Haliaeetus leucocephalus</i>	Federal Threatened
Gray Wolf	<i>Canis lupus</i>	Federal Endangered
Canada Lynx	<i>Lynx canadensis</i>	Federal Threatened
Columbia Spotted Frog	<i>Rana luteiventris</i>	Federal Candidate
Northern Leopard Frog	<i>Rana pipiens</i>	Bureau Sensitive
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	Bureau Sensitive
American White Pelican	<i>Pelecanus erythrorhynchos</i>	Bureau Assessment
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	Bureau Sensitive
Burrowing Owl	<i>Speotyto cunicularia hypugaea</i>	Bureau Sensitive
Flammulated Owl	<i>Otus flammeolus</i>	Bureau Sensitive
Northern Goshawk	<i>Accipiter gentilis</i>	Bureau Sensitive
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	Bureau Sensitive
Pygmy Nuthatch	<i>Sitta pygmaea</i>	Bureau Sensitive
Yellow-Billed Cuckoo	<i>Coccyzus americanus</i>	Bureau Sensitive
Brazilian Free-Tailed Bat	<i>Tadarida brasiliensis</i>	Bureau Assessment
Townsend's Big-Eared Bat	<i>Corynorhinus townsendii</i>	Bureau Sensitive
Painted Turtle	<i>Chrysemys picta</i>	Bureau Sensitive